Using Equine-Facilitated Psychotherapy to Treat Eating Disorders

by

Susana Donofry

A Graduate Research Project Submitted to the
University of Alaska Fairbanks
In Partial Fulfillment of the Requirements of the Degree of
Masters of Education in Counseling

Christine Cook, Ph.D.
Joanne Healy, Ph.D.
Lynn Harrison, M.Ed.

University of Alaska Fairbanks
Fairbanks, Alaska
Spring 2014

Abstract

Eating disorders are pervasive mental disorders that can be accompanied by significant psychological symptoms and comorbidities, such as: suicide, anxiety, and depression. The binging and purging behaviors that often accompany eating disorders can result in significant medical issues such as dehydration, heart arrhythmias, seizures, kidney problems, and death. Eating disorders affect males and females alike, as well as adults and children, and are most predominant among Western cultures. Eating disorders often involve binge eating episodes, periods of starvation, and purging behaviors such as self-induced vomiting, laxative use, and excessive exercise. Treatment options for decreasing the symptoms of eating disorders include: pharmacological interventions, psychological interventions, exercise interventions, and equine-facilitated psychotherapy (utilizes psychological interventions in combination with equine activities). This literature review provides a basis for a PowerPoint presentation that states the benefits of adding equine-facilitated psychotherapy to the list of top research priorities, as well as describes the benefits and limitations of this newer form of therapy.

Table of Contents

Using Equine-Facilitated Psychotherapy to Treat Eating Disorders

Eating disorders, such as anorexia nervosa (AN) and bulimia nervosa (BN), are mental disorders that can greatly damage the mind, body, and soul. The Eating Disorders Coalition (2013) estimates that nearly half of all Americans personally know someone who suffers from an eating disorder. More than 40 countries report the presence of eating disorders within their borders (Gordan, 2001). Twenty to 60% of American adolescents in community samples report episodes of binge eating, a common practice among individuals with eating disorders (Hudson, Hiripi, Pope, & Kessler, 2007). Individuals with eating disorders are frequently hospitalized for dehydration, seizures, gastrointestinal pain, chronic constipation, heart arrhythmias, kidney problems, history of weight loss, loss of monthly menses, cuts on various parts of the body, and spoon, toothbrush, or other item lodged in the esophagus (Cooper, 2013). Eating disorders are associated with higher depression scores, decreased quality of life scores, and higher rates of distress, functional impairment, suicidality, mental health treatment, and unhealthy body mass index (BMI) scores, when compared to those without eating disorders (Allen, Byrne, Oddy, & Crosby, 2013; Stice, Marti, & Rohde, 2013).

Mortality rates for anorexia nervosa are estimated around 5% (Arcelus, Mitchell, Wales, & Nielsen, 2011). Not only are eating disorders deadly (Arcelus et al., 2011; Rosling, Sparén, Norring, & von Knorring, 2011; Suokas et al., 2013), but they are also difficult to effectively treat (Hay, 2013). The dropout rate in outpatient care for a person with AN varies, ranging from 4.8% for short-term family therapy to 100% for some nutritional interventions (DeJong, Broadbent, & Schmidt, 2012). Individual therapy falls in the middle with a dropout rate between 20 and 40%. Clearly, it can be difficult to keep some individuals with eating disorders in treatment. In trials that involve *medication* interventions for BN, Mitchell, Roerig, and Steffen

(2013) found that remission rates for BN were low or not reported. Of the studies analyzed by these researchers, remission rates were between zero and 31%, though half of the studies did not report remission rates. Remission rates, or abstinence rates, were defined as periods of time when an individual did not meet criteria for a previously diagnosed eating disorder.

Research has focused on various treatment regimens for many decades, but very few treatment regimens have emerged as effective. Biological therapies such as medication management, as well as psychological therapies have been extensively reviewed, but few have proven to be effective (Hay, 2013; Mitchell et al., 2013). Other researchers have analyzed the use of exercise in the treatment of eating disorders, such as the use of a stationary bike or Pilates, or through performing physical activities with horses (Lutter & Smith-Osborne, 2011; Zunker, Mitchell, & Wonderlich, 2013). Some researchers have also begun to analyze the effectiveness of equine-facilitated psychotherapy, which utilizes a team approach involving a licensed therapist and equine specialist to help treat individuals with eating disorders using horses (Christian, 2005; Dezutti, 2013). The Equine-Assisted Growth and Learning Association (EAGALA) is a nonprofit organization that provides education, standards, innovation, and support for professionals providing services in this area (EAGALA, 2010). EAGALA explains that equine-facilitated psychotherapy, also known as equine-assisted psychotherapy or equine-assisted therapy, incorporates horses experientially to assist with emotional growth and learning. The individual addresses treatment goals and learns about himself or herself and others through participating in activities with horses and then processing feelings, behaviors, and patterns. Processing can take place on the spot or later on in individual therapy sessions. The focus of this form of therapy is not riding or horsemanship, rather the focus is on ground activities involving

the horse that require the client to apply specific skills. These horse-related activities along with the processing activities are thought to help clients develop skills such as nonverbal communication, assertiveness, creative thinking and problem solving, leadership, taking responsibility, teamwork, relationship building, and confidence (EAGALA, 2010). Not all programs or individuals who use horses practice equine-facilitated psychotherapy. To qualify as this form of therapy, a horse must be included in the therapy process, and not merely present in a supportive role. Additionally, a licensed or properly qualified mental health professional must be involved and the client must be facing some mental health or human development need such as a behavioral issue, an eating disorder, attention deficit disorder, post-traumatic stress disorder, or relationship and communication difficulties (EAGALA, 2010).

Equine-facilitated psychotherapy has been rapidly increasing in popularity since the 1990s in the United States and Europe and there are more than 700 centers across America that provide some form of equine assisted therapy or activities (Bachi, 2012). Additionally, there are more than 80 therapeutic boarding schools and numerous residential treatment facilities that utilize equine assisted activities and therapies as part of the their regular program (Bachi, 2012).

Equines, as well as other animals, have long been used with chronic illnesses and other challenges to improve health and wellness (Burgon, 2011). Equines are being increasingly utilized in treatment settings (Selby & Smith-Osborne, 2013). This form of treatment has promising implications for the treatment of eating disorders, as it provides a unique way to process feelings, behaviors, and patterns for those who suffer from life-threatening mental disorders.

Unfortunately, there is insufficient evidence about the efficacy of utilizing equine-

facilitated psychotherapy to treat such disorders and issues, including eating disorders (Bachi, 2012; Lutter & Smith-Osborne, 2011). In addition to a lack of evidence on the subject, there is also a lack of methodologically-sound research. Much of the existing evidence lacks randomization, utilizes small sample sizes, and lacks control groups (Bachi, 2012). This gap between knowledge and practice presents a significant problem, especially when it comes to treating eating disorders. Equine-assisted activities and therapies are utilized in various treatment settings for eating disorders (Lutter & Smith-Osborne, 2011), yet little evidence exists to support its efficacy. This project will analyze the use of equine-facilitated psychotherapy among individuals with eating disorders and answer the following research question: What role do equines play in the treatment of eating disorders?

Diagnosis of Eating Disorders

First, it is important to understand eating disorders in light of the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) released by the American Psychiatric Association (APA) in May 2013 (APA, 2013). The APA made several changes to the diagnostic criteria and the new criteria are noted below. Clinicians should be familiar with this new information if they intend to work with individuals with eating disorders in order to recognize signs and symptoms quickly and provide the appropriate level of care. For the purpose of this project, BN and AN will be the only two eating disorders discussed and reviewed. This is due to the fact that BN and AN are the only two disorders that appear in both eating disorder sections of the DSM-5 and the previous edition of the DSM, the DSM Fourth Edition: Text Revision (DSM-IV-TR). In the DSM-IV-TR, the section titled *Eating Disorders* includes AN, BN, and eating disorder not otherwise specified. In the DSM-5, the section is titled *Feeding and*

Eating Disorders and includes AN, BN, binge eating disorder, other specified feeding or eating disorder, unspecified feeding or eating disorder, and three diagnoses formally found in the *Infancy, Childhood, and Adolescence* section of the DSM-IV-TR: pica, rumination disorder, and avoided/restrictive food intake disorder. For the purpose of consistency, clarity, and brevity, BN and AN were selected for this project.

Bulimia Nervosa

BN is defined in the DSM-5 (APA, 2013) as a mental health disorder characterized by recurrent episodes of binge eating and inappropriate compensatory behaviors to prevent weight gain. An episode of binge eating is defined as eating an amount of food that is greater than most individuals would eat in a similar period of time under similar circumstances. The food is typically consumed within a certain period of time, usually less than two hours. Additionally, the binge episode must be accompanied by a sense of lack of control. This loss of control may present as an inability to refrain from eating or to stop eating once started. The loss of control may also manifest as an individual reporting that he or she has abandoned efforts to control eating. Typically, the binge eating often continues until the individual is uncomfortably, or even painfully, full.

Purging behaviors. To receive a diagnosis of BN, an individual must also engage in inappropriate compensatory mechanisms, or purging, such as self-induced vomiting; misuse of laxatives, enemas, diuretics, or other medications; fasting; and excessive exercise (APA, 2013). Typically, several methods are utilized to counteract the binge eating episodes; the most common method of purging is vomiting, followed by the misuse of laxatives and diuretics. Vomiting often brings immediate relief from physical discomfort and reduces the fear associated with gaining

weight. It is important to note that in some cases, vomiting becomes a goal in itself and is used to gain instant relief. The individual may binge eat, or eat a small amount, and then vomit in order to gain relief from the debilitating thoughts and feelings. Two common ways that individuals induce vomiting are using their fingers or other instruments to trigger a gag reflex. Sometimes, individuals are hospitalized because of objects lodged in their throat, e.g., spoons (Cooper, 2013). With time, many individuals are able to improve their ability to induce vomiting and can eventually vomit at will (APA, 2013). Lastly, research has indicated that some individuals use syrup of epicac to induce vomiting, but this is rare.

In some rare cases, individuals may misuse enemas following a binge-eating episode (APA, 2013). This form of purging is almost always used alongside other compensatory methods. Another rare purging behavior is the misuse of thyroid hormone to avoid weight gain. Additionally, individuals with diabetes mellitus and BN may adjust their insulin doses in order to reduce their body's ability to metabolize food consumed during binge episodes. Lastly, individuals with BN may abstain from food for a day or more, through fasting, or use excessive exercise to prevent weight gain. Exercise is deemed *excessive* when it interferes with activities of daily living, or when it occurs at unusual times or settings. Exercise is also considered *excessive* if the individual continues to exercise despite recommendations from a health authority to stop because of an injury or medical complication.

Undue influence of body shape and weight. The last and final criteria that an individual must meet to receive a diagnosis of BN is that his or her self evaluation and self-worth must be unduly influenced by his or her body shape and weight (APA, 2013). The individual typically has set unrealistic goals for their body shape and size and bases their self-worth upon achieving

these goals, which typically can never be reached.

Severity level. When diagnosed, BN is given a severity level based on the frequency of inappropriate compensatory behaviors (APA, 2013). The severity level may be increased or decreased to reflect other symptoms and the degree of disability. As such, the following criteria are not rigid and may be adjusted by the clinician as deemed appropriate. The number of inappropriate compensatory behaviors per week for a classification of *mild* severity is 1 to 3 episodes, for *moderate* is 4 to 7 episodes, for severe is 8 to 13 episodes, and for *extreme* is 14 or more episodes.

Associated features. Individuals with BN are often within the body mass index (BMI) range of normal or overweight (BMI ≥ 18.5 and < 30; APA, 2013). It is very uncommon for the disorder to occur among obese individuals, yet this does occur. Two common practices that individuals with BN use to control weight are restricting total caloric intake and selecting low-calorie foods. The individual may also describe avoiding foods that are thought to be fattening. Individuals with a diagnosis of BN often eat in secrecy, or as secretly as possible. The individual may present with shame about their eating patterns and therefore attempt to hide them. It is important to be aware of common triggers for binging and purging behaviors. Some common triggers are: having a negative affect, interpersonal stressors, dietary restraint, boredom, and negative feelings about body weight, body shape, and food. Additionally, menstrual irregularity and amenorrhea are often found in females with BN. The APA (2013) speculates that such disturbances could be related to weight fluctuations, nutritional deficiencies, or emotional distress. It is also important to note that purging behaviors can result in severe medical problems such as electrolyte imbalances, esophageal tears, gastric rupture, and cardiac arrhythmias. These

complications are rare, but potentially fatal.

Anorexia Nervosa

To receive a diagnosis of AN, an individual must also meet specific criteria, which has been updated in the new addition of the DSM. First, an individual must possess a significantly low body weight (APA, 2013). The low weight is due to limiting food intake, relative to an individual's requirements. It can be a difficult and subjective task to determine whether a weight is significantly low. A clinician should take an individual's age, gender, physical health, and developmental milestones into consideration when trying to determine if a client has a significantly low weight. According to the APA (2013), a clinician should look for a weight that is less than minimally normal for adults and less than what would be expected for children and adolescents. BMI scores are often used to help guide this decision. Height and weight are calculated together to achieve a BMI score, which can be used to assess body weight status. The APA (2013) stresses that while the BMI can be helpful in assessing body weight, it should not be a defining marker for determining whether an individual has AN. This is due to the fact that different governing organizations have established various thresholds for defining weight status and because individuals have such diverse weight ranges and body structures.

The second criteria needed for a diagnosis of AN, is that the client must present with an intense fear of gaining weight or becoming fat (APA, 2013). The individual must also develop persistent behaviors that interfere with weight gain. It is important to note that these behaviors persist even though an individual might already be substantially underweight. Often, the individual continues to worry about weight gain even though weight may be dropping substantially.

Lastly, per the DSM-5, an individual must demonstrate undue influence of their body weight or shape on their self-evaluation, similar to BN (APA, 2013). An inordinate amount of their self-worth must be based off of their perceived size or shape. Additionally, individuals can display an intense dissatisfaction with the way they experience their body. This criteria could also manifest as an unrelenting lack of awareness of the seriousness of the current low body weight. For some individuals with AN, they may feel globally overweight, while others might recognize their thinness, but be worried that a certain body part is "too fat" (e.g., the abdomen, buttocks, and thighs). Another shared experience among individuals with AN, is that weight loss is viewed as an impressive achievement, one that marks extraordinary self-discipline. Conversely, weight gain is formidable; it is seen as an unacceptable failure of self-control.

Subtypes. There are two subtypes of AN: 1) restricting type, and 2) binge-eating/purging type (APA, 2013). Restricting type refers to an individual who *does not* engage in recurrent episodes of binge eating or purging behavior. An individual with this subtype typically loses weight through dieting, fasting, and/or excessive exercise. On the other hand, an individual with the binge-eating/purging type *does* engage in repeated episodes of binge eating and purging, such as consuming large quantities of food followed by vomiting. Individuals with the binge eating/purging type can still engage in dieting, fasting, and excessive exercise, but they must also engage in the purging behaviors.

Severity level. When diagnosed, AN is given a severity level based on the client's current BMI or BMI percentile. If the client is an adult, a BMI is ascertained. If the client is a child or adolescent, BMI percentile charts are used, due to the variance in growth and development among youth. The clinician has freedom to use clinical judgment when selecting a

severity level. For example, the clinician may increase the level of severity to reflect other clinical symptoms, the degree of functional disability, or the need for supervision. Using the BMI scale, a BMI ≥ 17kg/m^2 is categorized as *mild* in severity, a BMI of 16–16.99 kg/m^2 is *moderate*, the BMI of 15–15.99 kg/m^2 is *severe*, and a BMI < 15 kg/m^2 is *extreme*.

Associated features. According to the APA (2013), many associated signs and symptoms present along with AN. These associated features include physiological problems, signs and symptoms that resemble depression, and tendencies for obsessive-compulsive behaviors. Irregular menstruation, abnormal heart rate, blood pressure disturbances, lower bone mineral density scores, and abnormal blood work, such as electrolyte imbalances, are some of the physiological problems that can be present in individuals with AN. As far as signs and symptoms of depression, the individual can experience a depressed mood, increased irritability, social withdrawal, decreased sexual desires, and increased difficulty sleeping. Obsessive-compulsive behaviors include constantly thinking about food or eating. Individuals with AN sometimes gather recipes, peruse cookbooks, and hoard food, which are additional obsessive-compulsive behaviors.

There are some additional signs and symptoms that occur with AN, but less frequently than those which were aforementioned. Often times, individuals with AN present with increased hesitation and concern about eating in front of others, feelings of ineffectiveness, and possessing a strong desire to control their social setting, home, or other environments (APA, 2013). Additionally, individuals with AN often present with closed-mindedness, decreased or absent spontaneity when it comes to social interactions, stubbornness or inflexibility in thinking, and purposely limited emotional responses. Lastly, extreme levels of physical activity are seen in a

small portion of individuals with AN. Increases in exercise often precede onset of AN and activity levels continue to increase or remain excessive after the onset of AN in an attempt to speed the weight loss process.

Literature Review

After reviewing the diagnostic criteria for bulimia nervosa (BN) and anorexia nervosa (AN), it is important to understand some additional central aspects of these disorders. The following literature review will discuss the prevalence of eating disorders, as well as significant issues related to them. It will then discuss the etiology of eating disorders and the theoretical framework for understanding the treatment of eating disorders with equine-facilitated psychotherapy. Lastly the literature review will describe a variety of interventions to treat eating disorders. Medication intervention will be discussed first, followed by psychological interventions and then exercise interventions. Following the literature review, is a section dedicated to equine-facilitated psychotherapy and concluding thoughts.

Prevalence of Eating Disorders

Stice et al. (2013) examined the prevalence of eating disorders, under the proposed DSM-5 guidelines across a community sample of 496 adolescent females. The participants were recruited from schools in a large city in the United States and completed annual diagnostic interviews over eight years. The girls were in seventh or eighth grade and ranged from 12 to 15 years of age. The sample included a variety of ethnic and racial backgrounds, which was representative of the schools. Using the DSM-5 criteria, the researchers found lifetime prevalence rates (by age 20) to be 0.8% for AN, 2.6% for BN, 2.8% for atypical AN, and 4.4% for subthreshold BN. The researchers assessed the lifetime prevalence rates by assessing for the

number of participants who met criteria for an eating disorder at the beginning of the study (baseline) or at follow-up. The mean age at the end of the study was 20, which is why the researchers refer to this number as the lifetime prevalence by age 20. Atypical AN was defined as a condition that meets all criteria for AN except for significantly low body weight. The APA (2013) explains that an individual with atypical AN experiences significant weight loss, yet the individual's weight is still within or above the normal range. For the purpose of this study, individuals that showed at least a 10% reduction in BMI from a previous measurement were considered to present with atypical AN (Stice et al., 2013). Subthreshold BN referred to a low-frequency or short duration presentation of BN where individuals reported at least two binge eating episodes and two compensatory behavior episodes per month, for at least three months or at least six episodes over a shorter period of time.

Another recent study on eating disorders used a nationally representative sample of 10,123 adolescents aged 13 to 18 years to analyze lifetime prevalence estimates of AN and BN (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). These researcher found the prevalence estimates to be 0.3% and 0.9% for AN and BN, respectively, under the previous DSM-IV-TR criteria. Allen et al. (2013) state that eating disorder prevalence rates among females have increased since the release of the new DSM-5 due to changes in the diagnostic criteria, such as taking out the need for amenorrhea among those with AN. Allen et al. (2013) followed a population-based sample of 1,383 male and female adolescents and found prevalence rates for DSM-5 AN to be 0.3% at age 14 and 0.6% at age 20 in females. For males, the prevalence of AN was 0% at 14 and 20 years. Prevalence rates for DSM-5 BN were 2.7% at 14 years old and 7.9% at 20 years old in females. For males, the prevalence of BN was 0.4% at age

14 and 1.6% at age 20. Allen et al. (2013) found slightly higher rates than those BN prevalence rates reported by Stice et al. (2013) and attributed it to a difference of information gathering techniques. Allen et al. (2013) did not assess for subthreshold BN, as did Stice et al. (2013), and therefore believe that the prevalence rates of BN are slightly inflated in their work because of decreased abilities to differentiate those individuals who would be better qualified as subthreshold BN. Averaged together, these three studies show prevalence rate around 0.4% for AN and 2.7% for BN.

Significant Issues in Eating Disorders

There are significant psychological and medical issues that present with eating disorders. In a study by Suokas et al. (2013), the authors reviewed 2,450 charts of individuals admitted to the Helsinki University Central Hospital in the period from 1995 to 2010. Suokas et al. (2013) found that AN and BN were associated with increased mortality risk, even when specialized treatment was available. In a study by Rosling et al. (2011), the authors reviewed 201 records from a Swedish specialist facility in the period from 1974 to 2001. Rosling et al. (2011) found that mortality risk was elevated in individuals with AN, and risk increased with lower body mass index scores. Of the patients studied by Rosling et al. (2011), six patients died from starvation, nine from suicide, and eight from other causes. Clearly, there are significant dangers associated with AN and BN, and effective treatment methods need to be established and utilized. Arcelus et al. (2011) completed a meta-analysis of 36 studies to determine mortality rates among eating disorders and synthesized that highest rates occurred in those with AN, with mortality rates at 5.1%, followed by bulimia nervosa, with rates around 1.7%. Additionally, the researchers reported that suicide accounted for 20% of the deaths among those who were diagnosed with

AN.

Among children and adolescents with AN, comorbid depression and anxiety are common (Hughes, 2012). In addition, Stice et al. (2013) identified that youth with eating disorders typically reported greater functional impairment and higher rates of distress, suicidality, mental health treatment, and unhealthy body mass index, than their counterparts without eating disorders. Allen et al. (2013) found that adolescents with eating disorders had increased depression scores and decreased quality of life scores, as assessed by the Beck Depression Inventory-Youth, the Depression Anxiety Stress Scale, and the 12-item Short-Form Health Survey-12, when compared to adolescents without eating disorders. Swanson et al. (2011) found that while most adolescents sought some form of treatment for their eating disorder, very few received specific eating disorder treatment – treatment specialized to their specific mental disorder. This discrepancy highlights the need for individualized treatment that is focused on eating disorders. Mental health practitioners need to remain up-to-date and should be able to tailor treatment to any number of comorbid disorders, suicidality, and other issues that arise during treatment of individual with eating disorders.

Etiology of Eating Disorders

Erguner-Tekinalp and Gillespie (2010) surveyed mental health professionals (counselors and psychologists) in the United States (n=54) and Turkey (n=74) for professional opinions about the etiology of eating disorders. E-mail lists of mental health organizations and professional contacts were assembled and an e-mail was sent to potential participants inviting them to take part in the study and complete a web-based survey. The overarching response from all participants emphasized that eating disorders involve behaviors and attitudes, which develop

in order to cope with emotions resulting from irrational thoughts. In other words, eating (or not eating) is driven by emotions. Participants also emphasized that the eating attitudes and behaviors interfered with an individual's mental health, physical health, and daily functioning. The researchers described that Turkish professionals were more likely to identify individual influences such as negative mood, age, low parental communication, peer influence, and interoceptive deficits (decreased sensitivity to stimuli originating within the body, such as sensing pain), as likely factors leading to the development of eating disorders. Conversely, United States professionals were more likely to identify larger, cultural factors such as perceived lack of control, race/ethnicity, cultural attitudes towards food, cultural attitudes toward ideal health, and competitive academic environments. As a whole, the practitioners who were surveyed endorsed the following concepts as predictive factors leading to the development of eating disorders: body dissatisfaction, cultural ideal of thinness, and media images of ideal thinness. The authors speculate that the differences between countries could be due to differing levels of education (the US respondents had more clinical experience with eating disorders), differences in training (years in school and development of training programs), and cultural differences. These differences highlight the importance of appreciating and respecting cultural differences, as well as the importance of understanding the unique subjective experience of individual clients.

Kally and Cumella (2008) studied the etiology of eating disorders for 100 midlife women using a phenomenological analysis. The authors found that family-of-origin issues, predominantly parental maltreatment, were important background contributors to eating disorders, but not immediate eating disorder triggers. The authors also found that body image

issues were major background contributors, regardless of age, and that body image issues served as immediate eating disorder triggers for clients with younger ages of eating disorder onset. Family-of-choice issues, such as domestic violence, and health issues were important eating disorder contributors and triggers for individuals with a later onset age. The authors conclude that these differences between age of onset and etiology suggests that treatment and assessment needs to be differentiated according to age of onset among midlife women with eating disorders.

Herpertz-Dahlmann, Seitz, and Konrad (2011) discussed how at one time in the United States, researchers thought that AN developed as a result of family processes accentuated by overprotective and conflict-avoiding parent-child interactions. Since then, research has suggested that AN may be a complex *genetic* disorder, and not one that develops as a result of family processes. Herpertz-Dahlmann et al. (2011) explain that AN seems to be expressed through temperament and specific traits during childhood, including inhibition, perfectionism, and harm avoidance. The authors summarized the findings of several recent studies and found a pattern of impaired flexibility and deficits in social cognition among individuals with AN, which are unrelated to body weight and the status of the eating disorder. The authors described that this research provides further evidence for a genetic component of AN. Some studies that were reviewed by the authors explained that the development of AN may also be due to the physiological and psychological changes that occur during puberty. In addition, increased societal demands may trigger the onset of AN. Herpertz-Dahlmann et al. (2011) state that the starvation process itself is associated with severe alterations in metabolism and neurotransmitter levels, and that these changes may negatively affect the adolescent brain during a period of brain growth when it is vulnerable to such alterations and outside stressors.

The previous three articles describe the influence of culture, individual, family, and genetics in the development of eating disorders. No one explanation of development can be can be taken by itself, without acknowledging the others. Researchers are still searching for a more robust and whole theory to explain the cause of eating disorders. The fact that culture, individual factors, and family environment may play a role in the development of eating disorders enhances the value of a cognitive-behavioral approach to treating eating disorders. If individuals have struggled with body image, as in the work of Kally and Cumella (2008), or cultural ideals of thinness, as in the work of Erguner-Tekinalp and Gillespie (2010), then it lays a foundation of perhaps faulty cognitions that can be targeted with a cognitive-behavioral approach to develop healthier ways of thinking. Similarly, cognitive-behavioral approaches can be used to alter behaviors, such as decreasing episodes of starvation, binging, and purging behaviors (Vaz, Conceicao, & Machado, 2013). These behaviors tend to be the focus of most treatment modalities and decreasing these behaviors leads to better physical and mental health. Equines can be added to the therapy equation as a learning tool and can aid in the creation of healthier cognitions and positive behavior patterns.

Theoretical Foundation

Many theoretical approaches can be applied to the therapeutic work that is done in equine-facilitated psychotherapy, including, but not limited to: attachment theory, choice theory, reality therapy, Gestalt therapy, and cognitive-behavioral therapy. First, attachment theory has frequently been applied to explain the effectiveness of animal therapy among many populations. Hanselman (2001) describes that animals can resemble significant attachment figures in an individual's life and that animals (especially household pets) can acquire some of the

characteristics of the ideal mother and provide a form of unconditional love. This author further describes that children with behavioral problems and other struggles often times have disruptions in their attachment to a significant caregiver. Hanselman (2001) explains that unfortunately, children with insecure attachments develop negative working models about themselves and the world, and can see themselves as worthless and powerless and see their caregivers as unreliable, unavailable, and rejecting. By involving animals, such as equines, in therapy, the ability to form secure attachments emerges, thereby enhancing the client's wellbeing and potential for improvement.

Similarly, choice theory and its application to reality therapy has been applied to equine-facilitated psychotherapy. In choice theory, humans are born with five genetically encoded needs that drive them throughout their lives: survival, love and belonging, power, freedom, and fun (Corey, 2013). Reality therapy is based on choice theory and provides a framework for helping individuals take more effective control of their lives. Therapy involves teaching and helping clients make more effective choices through understanding the basic five needs. Since reality therapy encourages more effective decision-making, it can be used to decrease maladaptive behaviors and patterns that accompany eating disorders. Additionally, Cameron and Robey (2013) believe that horses share the basic needs of survival, play, belonging, power, and freedom, and can therefore be used effectively in equine-facilitated psychotherapy. According to Cameron and Robey (2013), horses can be excellent teaching aids for describing the basic needs and helping clients draw conclusions based on similarities between them and the horses. For example, perhaps a female client with AN is able to see the connection between food and survival through understanding and interacting with a horse. Likewise, perhaps a client can draw

comparisons between a horse's figure and her own body figure, which could enhance the clinician's ability to target the client's self-image and the effects of starvation on her body.

Others have used Gestalt approaches to explain the power of equine-facilitated psychotherapy (Lac, Marble, & Boie, 2013). Gestalt techniques focus on the present, or the here and now, and when applied to equine therapy, a Gestalt-informed therapist would focus on the client's relationship with the horse, and in turn relationships with others. A Gestalt-informed approach to equine-facilitated psychotherapy provides a framework for the use of experiments and activities with horses that are common in this form of treatment. Therapists using this approach would also be able to tackle topics related to body image, weight, and concern around eating, which often stem from relational and cultural environmental influences (Lac et al., 2013).

Of all these theoretical approaches, a cognitive-behavioral style appears to be the most efficacious. This notion is supported by Hay's (2013) systematic review that shows cognitive-behavioral approaches to be the most effective psychological treatment for bulimia nervosa. The most effective treatments for AN have been harder to assess, but it seems that a family-based treatment, which utilizes behavior change and focuses on underlying cognitions, is emerging as a more effective treatment for AN (Downs & Blow, 2013; Hurst, Read, & Wallace, 2012; Watson & Bulik, 2013). In conclusion, maladaptive behaviors and cognitions associated with eating disorders can be targeted using this treatment style. The use of equines can help clients understand themselves better, provide grounds for learning new behaviors, help clients understand relationships better, and help clients develop improved thought patterns.

Treatment Options in Eating Disorders

The following discussion addresses interventions utilized to treat eating disorders and

includes such treatment options as medication management, psychological approaches, exercise, and equine activities. The research base for BN-related treatment options is much larger than that of AN (Hay, 2013; Hurst et al., 2012; Lutter & Smith-Osborne, 2011; Mitchell et al., 2013; Zunker et al., 2013). Additionally, in a systematic review, Hay (2013) described that treatment for BN has been more effective than treatment for AN (Hay, 2013). Fortunately, promising new approaches in the treatment of AN have emerged in the past decade (Hay, 2013; Watson & Bulik, 2013).

Medication interventions. In a systematic review, Mitchell et al. (2013) summarized current effective pharmacotherapies for the treatment of eating disorders. Several different types of antidepressants are in use for treating BN, the most frequently used are selective serotonin reuptake inhibitors (SSRIs). Other antidepressants include tricylclic antidepressants and monoamine oxidase inhibitors. The authors report that antidepressants have shown to have a positive effect on the symptoms of BN through decreasing the amount of binge-eating episodes. However, abstinence rates are low or not reported in all of these studies. The only drug carrying a Food and Drug Administration (FDA) indication for the treatment of BN is the SSRI fluoxetine and it is most often prescribed at 60 mg/day. Unfortunately, much of the literature analyzed in this systematic review is in the form of case reports, case series, and nonrandomized studies, which does not offer a high enough level of evidence to draw a true cause and effect relationship between antidepressants and alleviation of symptoms. There is a need for more rigorous randomized controlled trials in this area.

When compared to options for other eating disorders, the medication options and available research on AN is more sparse (Mitchell et al., 2013). A variety of studies have

analyzed the effectiveness of antidepressants in the treatment of AN. Mitchell et al. (2013) performed a systematic review of these studies and found antidepressants to be *in*effective in improving weight gain and elevating mood. Another class of drugs that has been studied for their effectiveness are antipsychotics. Similar to antidepressants, antipyschotics have also shown to have no effect on improving weight gain or improving other symptoms of AN (Mitchell et al., 2013). The authors of this review describe how researchers initially reported potential benefits of these two drug classes in early clinical trials, but while these trials appeared to show initial benefits, larger trials since then, have reported no such benefits.

Psychological interventions. In a systematic review, Hay (2013) discussed the use of various psychological approaches that have been used to treat eating disorders. Cognitive behavioral therapy (CBT) has been the most effective therapy for individuals with BN. CBT has consistently proven to help decrease binging and purging episodes. While CBT has shown to be the most effective therapy for treating BN, the research has not shown conclusive evidence for its effectiveness to treat AN. In addition to CBT, mental health professionals are beginning to see improvements in individuals with BN who are being treated with interpersonal psychotherapy and guided self-help models. Hay (2013) describes that these two therapy models have increased their evidence base over the last ten years and are showing signs of efficacy. Interpersonal psychotherapy is a short-term therapy that focuses on interpersonal problems to reduce binge episodes. It has been found to have better follow-up results in some studies, while CBT has been found to have better results post-treatment (Nevonen & Broberg, 2006). Several recent studies have indicated the importance and potential benefit of guided self-help when compared to CBT (Bailer et al., 2004; Jones et al., 2012; Vaz et al., 2013). CBT requires a specialist and

approximately 16 to 20 sessions over 4 to 6 months with the therapist (Jones et al., 2012). There tends to be a greater demand for CBT-trained therapists than the current supply. CBT treatment strategies focus on monitoring eating, binging, compensatory mechanisms, and associated feelings and cognition, which is then followed by working to establish regular eating patterns, prevent binging and purging, eliminate dieting, improve problem-solving skills, change beliefs about food weight and shape, promote self-esteem, and learn to identify and regulate emotions and adverse mood states (Vaz et al., 2013). Guided self-help provides a more cost-effective and more readily available option (Jones et al., 2012). Utilizing CBT-informed guided self-help, a therapist provides a client with a workbook or manual that the client works through on his or her own time. The manual contains cognitive-behavioral educational and treatment strategies. Additional resources could be utilized such as relevant books and websites. Using a guided self-help format, the therapist checks in with the client periodically and typically schedules shorter and less frequent client sessions.

Existing evidence on the treatment of AN is quite sparse and no single approach has shown to carry strong efficacy. Fortunately, two therapies have emerged in research over the last 10 years that are beginning to show potential benefits: interpersonal psychotherapy and family-based treatment (Hay, 2013). Interpersonal psychotherapy, as described earlier with BN, targets interpersonal problems as a way to alleviate and ameliorate client symptoms. This is a time-limited form of therapy that is based on the notion that interpersonal relationships are intertwined with symptomatology (McIntosh, Bulik, McKenzie, Luty, & Jordan, 2000). This approach supports the notion that if interpersonal functioning can improve, then symptoms will decrease. Hence, interpersonal relationships and issues are targeted.

Family-based treatment (FBT), often referred to as the Maudsley Method (Arnold, 2007), or family therapy for anorexia nervosa, is showing increasing effectiveness with younger individuals who have AN (Downs & Blow, 2013; Hay, 2013; Hurst et al., 2012; Watson & Bulik, 2013). FBT utilizes a three-phase system to treat children and adolescents in an outpatient setting. It is considered an intensive therapy and utilizes the client's family extensively (Hurst et al., 2012). Therapy usually lasts for around 12 months and consists of about 20-24 client sessions. The parent is highly involved in treatment and directs care at home during phase one and two of FBT. The parent ensures that the client is eating at home and monitors mealtime and weight gain. The parent also helps teach healthy habits and during phase two, begins to include the client in the monitoring process, giving the client more responsibilities with feeding him or herself. The clinician helps the family throughout the process; the clinician is responsible for providing guidance to the parents and family. After completing phase two, the client enters the third and final stage. During phase three, the clinician addresses common adolescent issues with the client during therapy sessions. Clinicians address issues such as gaining independence and building relationships (Hurst et al., 2012). The hope is for the client to transition back to adolescence with age-appropriate skills, and to re-teach the client how to live life now that they are not preoccupied by the time-consuming thoughts and behaviors associated with AN.

Exercise interventions and equine-assisted activities. Zunker et al. (2013) and Lutter and Smith-Osborne (2011) analyzed the use of exercise and physical activity in the treatment of eating disorders. Using a review of literature format, Zunker et al. (2013) studied a variety of physical activities used within this population. The authors reviewed six studies that used exercise in some format as an intervention in clinical settings. Examples of exercises were riding

a stationary bike, doing yoga or Pilates, playing recreational games, doing resistance training, and walking. Many of the studies included in the review provided positive evidence to support the use of moderate physical activity in treatment. For example, Szabo and Green (2002) found that resistance training was correlated with improvements in depression scores and body composition in the exercise groups when compared to a control group of non-exercisers. Even with the positive outcomes, Zunker et al. (2013) caution that more research needs to be performed on this topic before exercise can be considered an established treatment method, yet these findings provide positive insight into the potential benefit.

Lutter and Smith-Osborne (2011) also found promising results in a retrospective study involving physical activity and eating disorders. The authors analyzed 72 charts of women who had been diagnosed with AN, BN, and eating disorder not otherwise specified (EDNOS). The women ranged in age from 18 to 64 years old and were in treatment for at least 30 days. The women were being treated at an inpatient residential treatment facility in the southwestern region of the United States that specialized in treating eating disorders. The researchers measured the extent of physical activity by assigning metabolic equivalents (METs) to 32 different equine activities. All exercises were performed with horses. Some of these exercises were on the horse, such as trail riding and red light/green light, and some off the horse, such as grooming and the horse spa day. The researchers used the Eating Disorder Inventory (EDI-2) and the Beck Depression Inventory (BDI–2) to measure psychological well-being in order to determine effectiveness of this treatment modality. The authors also reviewed program satisfaction surveys that included patient discharge information, where patients were asked to rate and describe the effectiveness of the equine program at the end of treatment.

Both EDI-2 and BDI-II scores improved over the course of stay for all groups, as did body fat percentages for anorexia (Lutter & Smith-Osborne, 2011). The authors used regression analysis to determine the relationship between METs and both BDI-II and EDI-2 scores, finding statistically significant correlations. As METs increased, BDI-II discharge scores decreased, indicating a greater improvement in depression symptoms. When length of stay was controlled for, results showed that as METs increased, EDI-2 change scores increased, suggesting a greater improvement in eating disorder symptoms. Patients' mean scores for the survey prompt about the effectiveness of the equine program was 7.6, with 0 being not effective and 10 being very effective, indicating that the patients viewed equine therapy as beneficial to their treatment.

The results of the study appear to indicate that physical activity has a positive correlation with eating disorder symptom improvement (Lutter & Smith-Osborne, 2011). This study presents some of the first data in the literature about using equine-assisted exercise among individuals with eating disorders in a residential setting. The authors highlight these promising findings, yet recommend further research, as efficacy has not been fully established (Lutter & Smith-Osborne, 2011). As a whole, the current evidence emphasizes the importance of more research in this area as many settings include exercise as part of the treatment plan, without having established efficacy (Lutter & Smith-Osborne, 2011; Zunker et al., 2013).

Equine-Facilitated Psychotherapy

Resistance to eating disorder treatment has been well documented in literature and unfortunately, no efforts to treat resistant eating disorder patients have been remarkably effective (Halmi, 2013). Equine-facilitated psychotherapy provides a newer approach for treating eating disorders and may facilitate healing in a population that is difficult to treat. As equine programs

continue to expand and increase in number, clinicians must understand how equine-facilitated psychotherapy works and determine which populations it is appropriate for. To review, this form of therapy utilizes a team approach of therapist, client, and horse professional, and focuses on decreasing mental health symptoms through equine activities combined with psychotherapy (Dezutti, 2013; EAGALA, 2010). Oftentimes, metaphors and challenges are used to facilitate learning and the lessons learned with equines can be reviewed in subsequent therapy sessions outside of the horse arena (Christian, 2005). To date, limited information exists on the subject of using equine-facilitated psychotherapy to treat eating disorders. This discussion will review the existing literature and discuss the potential pitfalls and benefits.

First, it may be alarming that eating disorder treatment programs utilize equine-facilitated psychotherapy without an established research base. This is a valid concern and should be addressed thoroughly and promptly in research. One reason for the existence of equine-facilitated psychotherapy programs despite the lack of evidence may be due to the significant body of literature that exists on the benefit of animal-assisted therapy. Animal-assisted therapy has been researched abundantly and several reported benefits exist (Bachi, 2012; Bergon, 2011). Bergon (2011) summarizes that animals are reported to provide relationships and support, act as a confidant, provide acceptance, encourage responsibility, encourage empathy, encourage moral development, improve self-esteem, and control behavior. Additionally, petting a dog and dog ownership have been shown to lower blood pressure and raise coronary survival rates (Bergon, 2011). In regards to horses, equine therapy has been reported to improve balance, improve coordination, improve mobility, reduce spastic muscle tone, improve verbal development, and improve psychosocial skills (Bachi, 2012). Since benefits exist with the use of animal therapy

and equine therapy, although not fully relevant to eating disorders and equine-facilitated psychotherapy, it provides an explanation for the use of equines in programs despite a lack of efficacy.

In 2003, Cumella (2003) reviewed the literature to answer the question, "Is equine therapy useful in the treatment of eating disorders?" The author found 13 studies that addressed the use of equines. Most were reports that included a combination of animal-assisted psychotherapy, and not equines specifically. Of these 13 reports, none addressed eating disorders specifically, but rather other mental disorders, such as depression and anxiety, which are two common comorbid conditions that often present with eating disorder patients. Equine therapy has been found to improve symptoms of depression and anxiety (Cumella, 2003), but the therapeutic benefits of equine therapy could only be surmised based on drawing conclusions from related work. Cumella (2003) describes several observations that have been noted in the literature and presents a list of the potential psychotherapeutic benefits to eating disorder patients. First, equine therapy may boost self-confidence through learning and mastery of a new skill. As a client masters the skill of horsemanship, it can help improve the client's confidence, which in turn can give the client confidence to tackle other obstacles such as recovery. Second, equine therapy may increase self-efficacy because as the client learns to communicate and direct a large animal, the client may begin to feel like he or she can accomplish other goals in life, instead of feeling helpless. Third, horses may assist clients to shift their perspectives away from their negative thoughts and consuming behaviors. As clients groom and care for a horse, they are able to direct their attention toward another being and engage in a safe and caring interaction. Fourth, Cumella (2003) suggests that equine therapy may increase client assertiveness. Clients need to

demonstrate assertiveness, direction, and initiative in order to communicate effectively with a horse, and this in turn may enable clients to express their needs and rights more effectively in other relationships. Fifth, it is thought that equine therapy may assist clients increase their levels of trust. Learning to trust an animal such as a horse can encourage clients to develop and restore trust in other areas of their life. Other potential benefits of equine therapy that are discussed, but again, not supported by robust clinical trials, include: increased self-concept and self-acceptance, anxiety reduction, decreased isolation, improved impulse control, healthier boundaries, increased creative freedom, and spiritual growth.

Since Cumella's publication (2003), Lutter and Smith-Osborne (2011) analyzed the use of equine-assisted activities in the treatment of eating disorders. As discussed previously, the authors found no harm associated with the use of horses at a Southwestern eating disorder facility, and saw a correlation between exercising with horses and symptom and mood improvement. Of important note, though, is that this study did not analyze equine-facilitated psychotherapy specifically, just equine-assisted activities in terms of exercise, which may or may not have involved psychotherapy.

Additionally, Christian (2005) published a case study report that described important components of equine-assisted therapy. The author details how a women's residential treatment center utilized a team of therapists and horse specialists to help alleviate eating disorder symptoms and teach therapy lessons. The client discussed in the paper was a 26-year old female with a 10-year history of AN. She had been living with her aunt and uncle and was admitted for 60 days of residential treatment. The client performed various activities with horses, was asked therapeutic questions throughout the activities, and processed the activity with the therapists

during the session and afterwards. Activities were used to learn specific patterns of behavior and the concept of boundaries. During her first equine session, the client participated in a lesson that revealed the influence of shame, control, and perfectionism in her life, and the importance of having treatment team members nearby. In her second session, she participated in an equine exercise that strove to teach her about boundaries, her support network, and codependency. Christian (2005) reported that the patient's attitudes continued to improve from this point on and that the client began to mentor new patients. The patient apologized for previous negative behaviors and expressed appreciation for other residents who had helped her make progress. While initially hesitant and frustrated with equine therapy, the patient came around and became fully involved in the therapeutic activities, asking to participate in all possible equine activities up until discharge (Christian, 2005). This case study presents a story of success that utilizes equine-facilitated psychotherapy in combination with other treatment modalities. Due to the nature of case studies, this article cannot determine any correlation or causation, but rather simply describe the phenomena and help guide future research.

In a recent Norwegian article, researchers interviewed 6 therapists who used horse-assisted therapeutic interventions at a day treatment facility for individuals with prolonged, severe eating disorders (Træen, Moan, & Rosenvinge, 2012). The therapists reported that various qualities of the horse were useful in therapy. The therapists believed that the horses provided the patients with an opportunity to experience intimacy in a relationship. The horses also provided patients with an opportunity to practice and improve their relationship skills in a clear, effective manner that was less threatening than other approaches. The therapists thought that the patients were able to increase their awareness of their own and others' emotional reactions, as well as

body language and intention through learning how to communicate with horses and reflecting on their therapy experiences. The authors conclude that the positive evaluations that the therapists gave for this treatment approach justify further refinements of the approach and the exploration of its effect and efficacy through controlled research designs (Træen et al., 2012).

This discussion concludes the section on available research that addresses both eating disorders and equine-facilitated psychotherapy. The research on this area is very limited and in need of more depth. It appears that clients benefit from their exposure to equines and no negative complications have been reported (Christian, 2005; Lutter & Smith-Osborne, 2011; Træen et al., 2012). With that said, equine-facilitated psychotherapy should become a priority of current eating disorder research. Several facilities have reported use of equines in their therapeutic settings (Christian, 2005; Remuda Ranch, 2013; Træen et al., 2012) yet efficacy has not been established and the nature of how this form of therapy works is not fully understood.

Application

The project supported by this literature review is a PowerPoint presentation that summarizes the background of eating disorders, various methods used to treat eating disorders, and information about equine-facilitated psychotherapy (see Appendix A). This PowerPoint can be used to train staff of mental health organizations. If mental-health professionals are to remain up-to-date with best practice, as mandated by the American Counseling Association's Code of Ethics (2014), then a training in this new field of equine-facilitated psychotherapy, along with a refresher or summary of the diagnostic criteria, prevalence, and other treatment options, would assist clinicians in complying with this mandate and help inform treatment decisions. In addition to the PowerPoint, this project also includes a handout that details contact information for

equine-facilitated psychotherapy programs in Alaska and the website link for locating additional programs in the United States and abroad (see Appendix B).

Conclusion

In conclusion, limited literature exists on the topic of treating eating disorders with equine-facilitated psychotherapy or other related horse activities. Cumella (2003) explains that, as of publication, no prior research existed to support the efficacy of using equine therapy to treat eating disorders. Træen et al. (2012) and Christian (2005) provide low-level evidence to support the use of equines in treatment through interviews and a case study, respectively. Lutter and Smith-Osborne (2011) provide the only higher-level evidence that exists on this topic and suggest that equine activities may be beneficial, and at the very least, not harmful, to individuals who suffer from eating disorders. Clearly, more research is needed in this area to determine efficacy so that treatment facilities can appropriately and ethically care for their patients. Several treatment facilities regularly use equine therapy in their treatment programs, such as Remuda Ranch (Colclasure, 2004). This center is a well-established 100-acre ranch in Arizona that has treated over 10,000 women with eating disorders over the last 20 years with a variety of interventions to include equine therapy (Remuda Ranch, 2013). As eating disorders can be difficult to treat, effective treatment interventions are paramount and equine-facilitated psychotherapy should be further analyzed to determine its place in the treatment of eating disorders. As the existing literature is synthesized on this subject, it appears that it may be best to utilize equine-facilitated psychotherapy as an adjunct to other treatment modalities, and not in and of itself.

References

Allen, K. L., Byrne, S. M., Oddy, W. H., & Crosby, R. D. (2013). DSM–IV–TR and DSM-5 eating disorders in adolescents: Prevalence, stability, and psychosocial correlates in a population-based sample of male and female adolescents. *Journal of Abnormal Psychology*, *122*(3), 720-732. doi:10.1037/a0034004

American Counseling Association. (2014). *ACA Code of Ethics.* Alexandria,VA: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Publishing.

Arcelus, J., Mitchell, A. J., Wales, J., & Nielsen, S. (2011). Mortality rates in patients with anorexia nervosa and other eating disorders: A meta-analysis of 36 studies. *Archives of General Psychiatry*, *68*(7), 724-731. doi:10.1001/archgenpsychiatry.2011.74

Arnold, C. (2007). *Next to nothing: A first-hand account of one teenager's experience with an eating disorder*. New York, NY: Oxford University Press.

Bachi, K. (2012). Equine-facilitated psychotherapy: The gap between practice and knowledge. *Society & Animals*, *20*(4), 364-380. doi:10.1163/15685306-12341242

Bailer, U., Zwaan, M., Leisch, F., Strnad, A., Lennkh-Wolfsberg, C., El-Giamal, N., & ... Kasper, S. (2004). Guided self-help versus cognitive-behavioral group therapy in the treatment of bulimia nervosa. *International Journal of Eating Disorders, 35*(4), 522-537. doi:10.1002/eat.20003

Burgon, H. (2011). 'Queen of the world': Experiences of 'at-risk' young people participating in equine-assisted learning/therapy. *Journal of Social Work Practice*, *25*(2), 165-183. doi:10.1080/02650533.2011.561304

Cameron, J., & Robey, P. A. (2013). Healing through healing: the horse power of choice theory.

International Journal of Choice Theory & Reality Therapy, *33*(1), 87-98.

Christian, J. (2005). All creatures great and small: Utilizing equine-assisted therapy to treat eating disorders. *Journal of Psychology & Christianity*, *24*(1), 65-67.

Colclasure, D. (2004). To greener pastures. *American Fitness*, *22*(4), 49-50.

Cooper, R. (2013). Could your patient have an eating disorder? *Nursing For Women's Health*, *17*(4), 317-324. doi:10.1111/1751-486X.12050

Corey, G. (2013). *Theory and practice of counseling and psychotherapy*. Belmont, CA: Brooks/Cole.

Corsini, R. J., & Wedding, D. (Eds.). (2011). *Current psychotherapies* (9th ed.). Belmont, CA: Brooks/Cole.

Cumella, E. J. (2003). Questions & answers. *Eating Disorders*, *11*(2), 143.

Dezutti, J. (2013). Eating disorders and equine therapy: A nurse's perspective on connecting through the recovery process. *Journal of Psychosocial Nursing and Mental Health Services*, *51*(9), 24-31. doi:10.3928/02793695-20130612-01

DeJong, H., Broadbent, H., & Schmidt, U. (2012). A systematic review of dropout from treatment in outpatients with anorexia nervosa. *International Journal of Eating Disorders*, *45*(5), 635-647. doi:10.1002/eat.20956

Downs, K. J., & Blow, A. J. (2013). A substantive and methodological review of family-based treatment for eating disorders: The last 25 years of research. *Journal of Family Therapy*, *35*(1), 3-28. doi:10.1111/j.1467-6427.2011.00566.x

Equine-Assisted Growth and Learning Association. (2010). What is EAP and EAL. Retrieved from http://www.eagala.org/Information/What_Is_EAP_EAL

Eating Disorders Coalition. (2013). Facts about eating disorders: What the research shows. Retrieved from www.eatingdisorderscoalition.org/documents/EatingDisorderFacts.pdf.

Erguner-Tekinalp, B., & Gillespie, C. (2010). Mental health practitioners' professional opinions of etiology of eating disorders. *International Journal of Mental Health*, *39*(3), 68-87.

Gordon, R. A. (2001). Eating disorders East and West: A culture-bound syndrome unbound. In M. Nasser, M. A. Katzman, & R. A. Gordon (Eds.), *Eating disorders and cultures in transition* (pp. 1-23). New York, NY: Taylor and Francis.

Hanselman, J. L. (2001). Coping skills interventions with adolescents in anger management using animals in therapy. *Journal of Child & Adolescent Group Therapy*, *11*(4), 159-195. doi:10.1023/A:1014802324267

Halmi, K. A. (2013). Perplexities of treatment resistance in eating disorders. *BMC Psychiatry*, *13*(1), 1-12. doi:10.1186/1471-244X-13-292

Hay, P. (2013). A systematic review of evidence for psychological treatment in eating disorders: 2005-2012. *International Journal of Eating Disorders, 42*(5), 462-469.

Herpertz-Dahlmann, B., Seitz, J., & Konrad, K. (2011). Aetiology of anorexia nervosa: From a 'psychosomatic family model' to a neuropsychiatric disorder? *European Archives of Psychiatry & Clinical Neuroscience*, *261,* 177-181. doi:10.1007/s00406-011-0246-y

Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biological Psychiatry*, *61*(3), 348-358. doi:10.1016/j.biopsych.2006.03.040

Hughes, E. K. (2012). Comorbid depression and anxiety in childhood and adolescent anorexia nervosa: Prevalence and implications for outcome. *Clinical Psychologist*, *16*(1), 15-24.

doi:10.1111/j.1742-9552.2011.00034.x

Hurst, K., Read, S., & Wallis, A. (2012). Anorexia nervosa in adolescence and Maudsley family-based treatment. *Journal of Counseling & Development, 90,* 339-345.

Jones, C., Bryant-Waugh, R., Turner, H., Gamble, C., Melhuish, L., & Jenkins, P.E. (2012). Who benefits most from guided self-help for binge eating? An investigation into the clinical features of completers and non-completers. *Eating Behaviors, 13*(2), 146-149.

Kally, Z., & Cumella, E. J. (2008). 100 midlife women with eating disorders: A phenomenological analysis of etiology. *Journal of General Psychology*, *135*(4), 359-378.

Lac, V., Marble, E., & Boie, I. (2013). Equine-assisted psychotherapy as a creative relational approach to treating clients with eating disorders. *Journal of Creativity in Mental Health*, *8*(4), 483-498. doi:10.1080/15401383.2013.852451

Lutter, C., & Smith-Osborne, A. (2011). Exercise in the treatment of eating disorders: An alternative view. *Best Practice in Mental Health*, *7*(2), 42-59.

McIntosh, V, Bulik, C. M., McKenzie, J. M., Luty, S.E., & Jordan, J. (2000). Interpersonal psychotherapy for anorexia nervosa. *International Journal of Eating Disorders, 27*(2): 125-39.

Mitchell, J. E., Roerig, J., & Steffen, K. (2013). Biological therapies for eating disorders. *International Journal of Eating Disorders, 46*(5), 470-477.

Nevonen, L. G., & Broberg, A. G. (2006). A comparison of sequenced individual and group psychotherapy for patients with bulimia nervosa. *International Journal of Eating Disorders*, *39*(2), 117-127.

Remuda Ranch. (2013). Types of therapy. Retrieved from

http://www.remudaranch.com/about/types-of-therapy

Rosling, A. M., Sparén, P., Norring, C., & von Knorring, A. (2011). Mortality of eating disorders: A follow-up study of treatment in a specialist unit 1974-2000. *International Journal of Eating Disorders*, *44*(4), 304-310. doi:10.1002/eat.20827

Selby, A., & Smith-Osborne, A. (2013). A systematic review of effectiveness of complementary and adjunct therapies and interventions involving equines. *Health Psychology*, *32*(4), 418-432. doi:10.1037/a0029188

Stice, E., Marti, C., & Rohde, P. (2013). Prevalence, incidence, impairment, and course of the proposed DSM-5 eating disorder diagnoses in an 8-year prospective community study of young women. *Journal of Abnormal Psychology*, *122*(2), 445-457. doi:10.1037/a0030679

Suokas, J. T., Suvisaari, J. M., Gissler, M., Löfman, R., Linna, M. S., Raevuori, A., & Haukka, J. (2013). Mortality in eating disorders: A follow-up study of adult eating disorder patients treated in tertiary care, 1995–2010. *Psychiatry Research*, Advance online publication. doi:10.1016/j.psychres.2013.07.042

Swanson, S. A., Crow, S. J., Le Grange, D., Swendsen, J., & Merikangas, K. R. (2011). Prevalence and correlates of eating disorders in adolescents: Results from the national comorbidity survey replication adolescent supplement. *Archives of General Psychiatry*, *68*(7), 714-723. doi:10.1001/archgenpsychiatry.2011.22

Szabo, C., & Green, K. (2002). Hospitalized anorexics and resistance training: Impact on body composition and psychological well-being. A preliminary study. *Eating and Weight Disorders: EWD*, *7*(4), 293-297. doi:10.1007/BF03324975

Træen, B., Moan, K., & Rosenvinge, J. H. (2012). Therapists' experience of horse-based

treatment of patients with eating disorders [Abstract]. *Tidsskrift For Norsk Psykologforening*, *49*(4), 349-355.

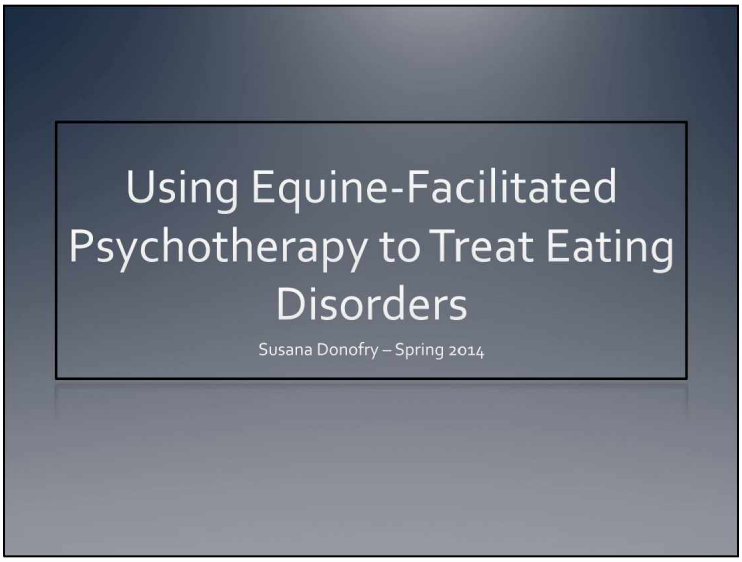
Vaz, A.R., Conceicao, E., & Machado, P.P. (2013). Self-help CBT treatment for bulimic disorders: Effectiveness and clinically significant change. *Journal of the Society for Psychotherapy Research, 23*(3), 324-332.

Watson, H. J., & Bulik, C. M. (2013). Update on the treatment of anorexia nervosa: Review of clinical trials, practice guidelines and emerging interventions. *Psychological Medicine*, *43*(12), 2477-2500. doi:10.1017/S0033291712002620

Zunker, C., Mitchell, J., & Wonderlich, S. (2013). Exercise interventions for women with anorexia nervosa: A review of the literature. *International Journal of Eating Disorders 44*(7), 579-584.

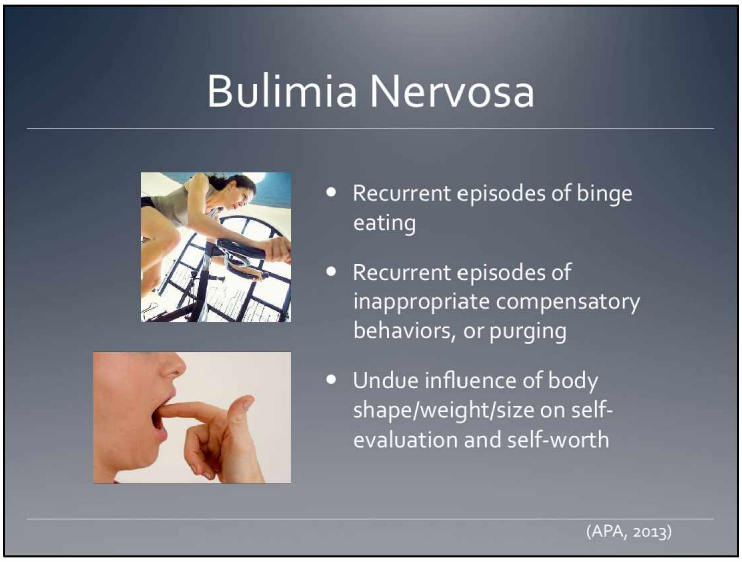
Appendix A

PowerPoint Presentation


Using Equine-Facilitated Psychotherapy to Treat Eating Disorders
Susana Donofry – Spring 2014

These are the main topics that will be discussed within the PowerPoint presentation.

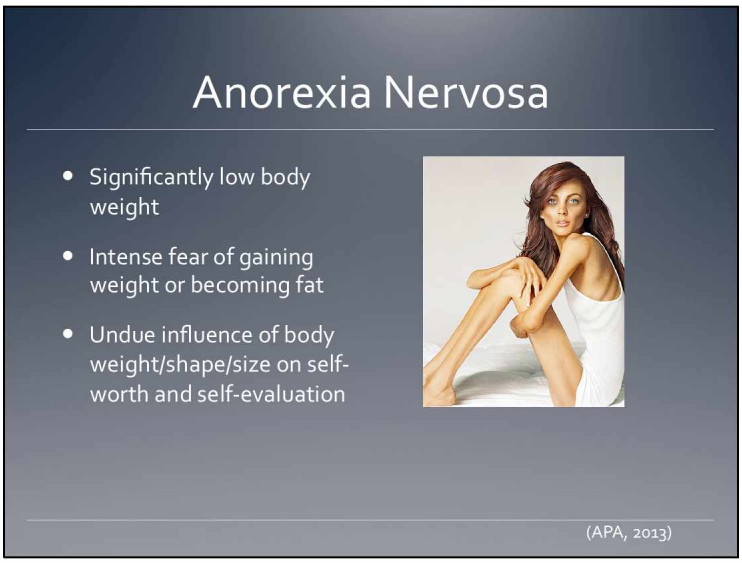
- Diagnostic criteria for bulimia and anorexia
- Prevalence of eating disorders
- Significant issues of eating disorders
- Treatment options for eating disorders
- Equine-facilitated psychotherapy



BN is defined in the DSM-5 (APA, 2013) as a mental health disorder characterized by recurrent episodes of binge eating and inappropriate compensatory behaviors to prevent weight gain. An episode of binge eating is defined as eating an amount of food that is greater than most individuals would eat in a similar period of time under similar circumstances. The food is typically consumed within a certain period of time, usually less than two hours. Additionally, the binge episode must be accompanied by a sense of lack of control.

To receive a diagnosis of BN, an individual must also engage in inappropriate compensatory mechanisms, or purging, such as self-induced vomiting; misuse of laxatives, enemas, diuretics, or other medications; fasting; and excessive exercise (APA, 2013). Typically, several methods are utilized to counteract the binge eating episodes; the most common method of purging is vomiting, followed by the misuse of laxatives and diuretics. Vomiting often brings immediate relief from physical discomfort and reduces the fear associated with gaining weight. Two common ways that individuals induce vomiting are using their fingers or other instruments to trigger a gag reflex. In some rare cases, individuals may misuse enemas following a binge-eating episode (APA, 2013). This form of purging is almost always used alongside other compensatory methods. Another rare purging behavior is the misuse of thyroid hormone to avoid weight gain.

The last and final criteria that an individual must meet to receive a diagnosis of BN is that his or her self evaluation and self-worth must be unduly influenced by his or her body shape and weight (APA, 2013). The individual typically has set unrealistic goals for their body shape and size and bases their self-worth upon achieving these goals, which typically can never be reached.

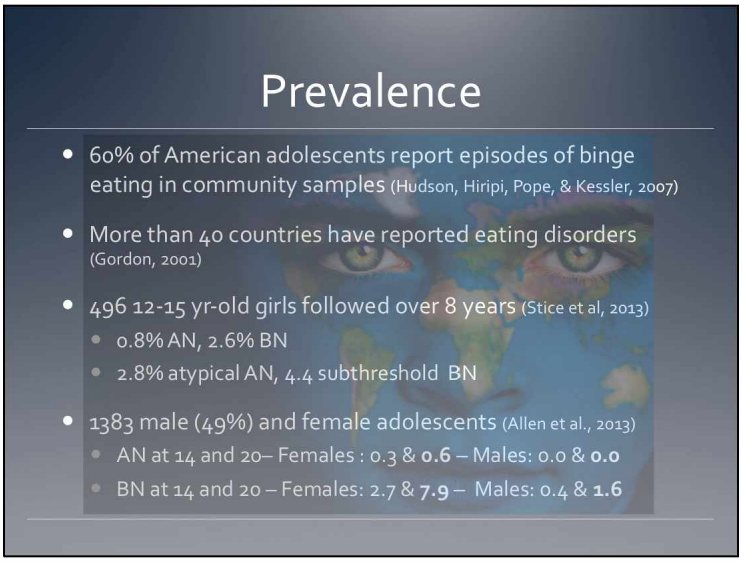


To receive a diagnosis of AN, an individual must also meet specific criteria, which has been updated in the new addition of the DSM. First, an individual must possess a significantly low body weight (APA, 2013). The low weight is due to limiting food intake, relative to an individual's requirements.

A clinician should take an individual's age, gender, physical health, and developmental milestones into consideration when trying to determine if a client has a significantly low weight. According to the APA (2013), a clinician should look for a weight that is less than minimally normal for adults and less than what would be expected for children and adolescents. BMI scores are often used to help guide this decision.

The second criteria needed for a diagnosis of AN, is that the client must present with an intense fear of gaining weight or becoming fat (APA, 2013). The individual must also develop persistent behaviors that interfere with weight gain. It is important to note that these behaviors persist even though an individual might already be substantially underweight.

Lastly, per the DSM-5, an individual must demonstrate undue influence of their body weight or shape on their self-evaluation, similar to BN (APA, 2013). An inordinate amount of their self-worth must be based off of their perceived size or shape. Additionally, individuals can display an intense dissatisfaction with the way they experience their body. This criteria could also manifest as an unrelenting lack of awareness of the seriousness of the current low body weight. For some individuals with AN, they may feel globally overweight, while others might recognize their thinness, but be worried that a certain body part is "too fat" (e.g., the abdomen, buttocks, and thighs).

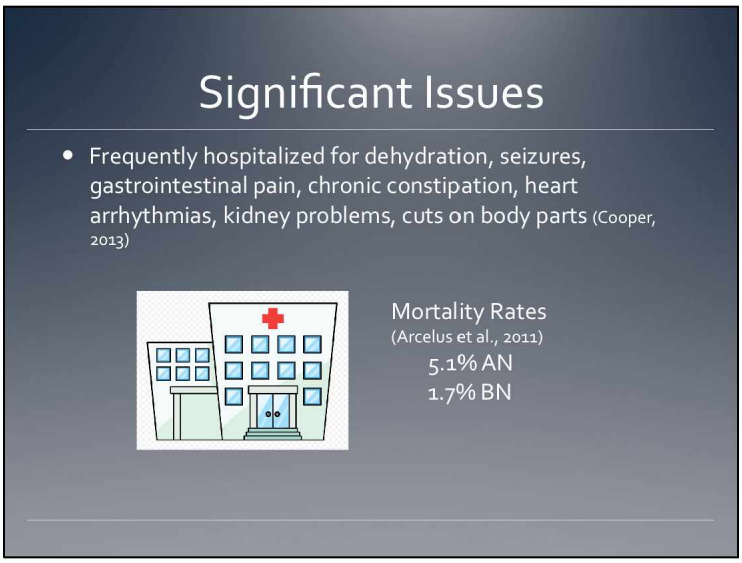


Stice et al. (2013) examined the prevalence of eating disorders, under the proposed DSM-5 guidelines across a community sample of 496 adolescent females. The participants were recruited from schools in a large city in the United States and completed annual diagnostic interviews over eight years. The girls were in seventh or eighth grade and ranged from 12 to 15 years of age. The sample included a variety of ethnic and racial backgrounds, which was representative of the schools.

Using the DSM-5 criteria, Stice et al. found lifetime prevalence rates (by age 20) to be 0.8% for AN, 2.6% for BN, 2.8% for atypical AN, and 4.4% for subthreshold BN. The researchers assessed the lifetime prevalence rates by assessing for the number of participants who met criteria for an eating disorder at the beginning of the study (baseline) or at follow-up. The mean age at the end of the study was 20, which is why the researchers refer to this number as the lifetime prevalence by age 20.

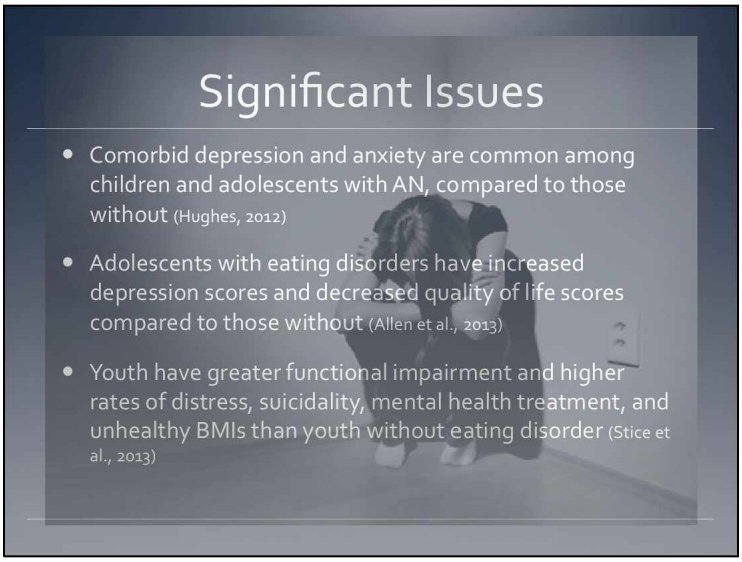
Atypical AN was defined as a condition that meets all criteria for AN except for significantly low body weight. The APA (2013) explains that an individual with atypical AN experiences significant weight loss, yet the individual's weight is still within or above the normal range. For the purpose of this study, individuals that showed at least a 10% reduction in BMI from a previous measurement were considered to present with atypical AN (Stice et al., 2013). Subthreshold BN refered to a low-frequency or short duration presentation of BN where individuals reported at least two binge eating episodes and two compensatory behavior episodes per month, for at least three months or at least six episodes over a shorter period of time.

Allen et al. (2013) state that eating disorder prevalence rates among females have increased since the release of the new DSM-5 due to changes in the diagnostic criteria, such as taking out the need for amenorrhea among those with AN. Allen et al. (2013) followed a population-based sample of 1383 male and female adolescents and found prevalence rates for DSM-5 AN to be 0.3% at age 14 and 0.6% at age 20 in females. For males, the prevalence of AN was 0% at 14 and 20 years. Prevalence rates for DSM-5 BN were 2.7% at 14 years old and 7.9% at 20 years old in females. For males, the prevalence of BN was 0.4% at age 14 and 1.6% at age 20. Allen et al. (2013) found slightly higher rates than those BN prevalence rates reported by Stice et al. (2013) and attributed it to a difference of information gathering techniques. Allen et al. (2013) did not assess for subthreshold BN, as did Stice et al. (2013), and therefore believe that the prevalence rates of BN are slightly inflated in their work because of decreased abilities to differentiate those individuals who would be better qualified as subthreshold BN. Averaged together, these three studies show prevalence rate around 0.4% for AN and 2.7% for BN



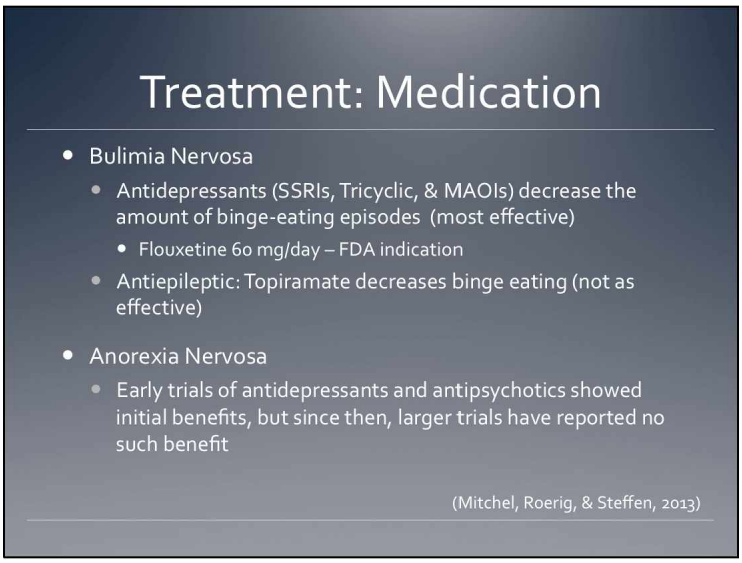
Individuals with eating disorders are frequently hospitalized for dehydration, seizures, gastrointestinal pain, chronic constipation, heart arrhythmias, kidney problems, and cuts on body parts (Cooper, 2013).

Arcelus et al. (2011) completed a meta-analysis of 36 studies to determine mortality rates among eating disorders and synthesized that highest rates occurred in those with AN, with mortality rates at 5.1%, followed by bulimia nervosa, with rates around 1.7%. Additionally, the researches saw that one in five individuals with AN had committed suicide.



Among children and adolescents with AN, comorbid depression and anxiety are common (Hughes, 2012). In addition, Stice et al. (2013) identified that youth with eating disorders typically reported greater functional impairment and higher rates of distress, suicidality, mental health treatment, and unhealthy body mass index, than their counterparts without eating disorders. Allen et al. (2013) found that adolescents with eating disorders had increased depression scores and decreased quality of life scores, as assessed by the Beck Depression Inventory-Youth, the Depression Anxiety Stress Scale, and the 12-item Short-Form Health Surgey-12, when compared to adolescents without eating disorders.

Mental health practitioners need to remain up-to-date and should be able to tailor treatment to any number of comorbid disorders, suicidality, and other issues that arise during treatment of individual with eating disorders.



In a systematic review, Mitchell et al. (2013) summarized current effective pharmacotherapies for the treatment of eating disorders. Several different types of antidepressants are in use for treating BN, the most frequently used are selective serotonin reuptake inhibitors (SSRIs). Other types include tricylclic antidepressants and monoamine oxidase inhibitors. The authors report that antidepressants have shown to have a positive effect on the symptoms of BN by decreasing the amount of binge-eating episodes. However, abstinence rates are low or not reported in all of these studies. The only drug carrying a Food and Drug Administration (FDA) indication for the treatment of BN is the SSRI fluoxetine and it is most often prescribed at 60 mg/day.

An antiepileptic, Topiramate, has also been studied in a small number of trials, and is showing mild effectiveness in decreasing binge eating episodes.

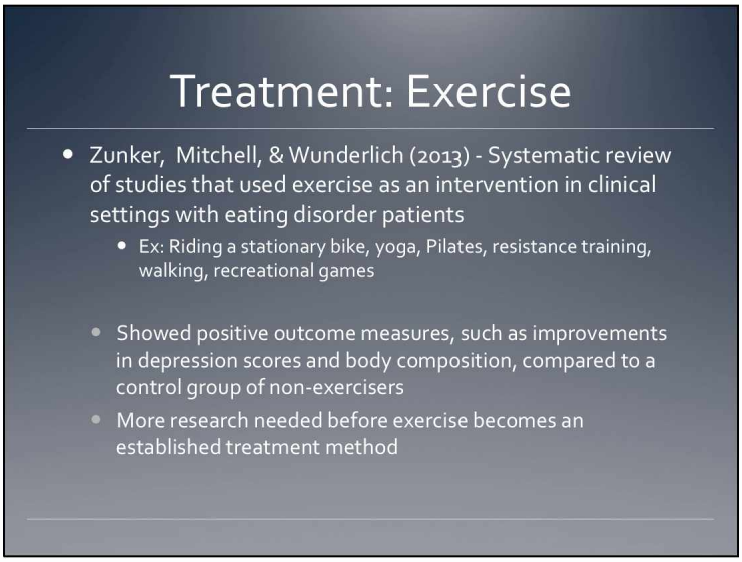
With cases of AN, the medication options and available research is more sparse when compared to options for other eating disorders (Mitchell et al., 2013). A variety of studies have analyzed the effectiveness of antidepressants in the treatment of AN. Mitchell et al. (2013) performed a systematic review of these studies and found antidepressants to be ineffective in improving weight gain and elevating mood. Another class of drugs that has been studied for their effectiveness are antipsychotics. Similar to antidepressants, antipyschotics have also shown to have no affect on improving weight gain or improving other symptoms of AN. Mitchell et al. (2013) described how researchers initially reported potential benefits of these two drug classes in early clinical trials, but while these trials appeared to show initial benefits, larger trials since then, have reported no such benefits, thus reporting a lack of efficacy.

In a systematic review, Hay (2013) discussed the use of various psychological approaches that have been used to treat eating disorders. Cognitive behavioral therapy (CBT) has been the most effective therapy for individuals with BN. CBT has consistently shown to help decrease binging and purging episodes. While CBT has shown to be the most effective therapy for treating BN, the research has not shown conclusive evidence for its effectiveness to treat AN. In addition to CBT, mental health professionals are beginning to see improvements in individuals with BN who are being treated with interpersonal psychotherapy and guided self-help models. Hay (2013) describes that these two therapy models have increased their evidence base over the last ten years and are showing signs of efficacy.

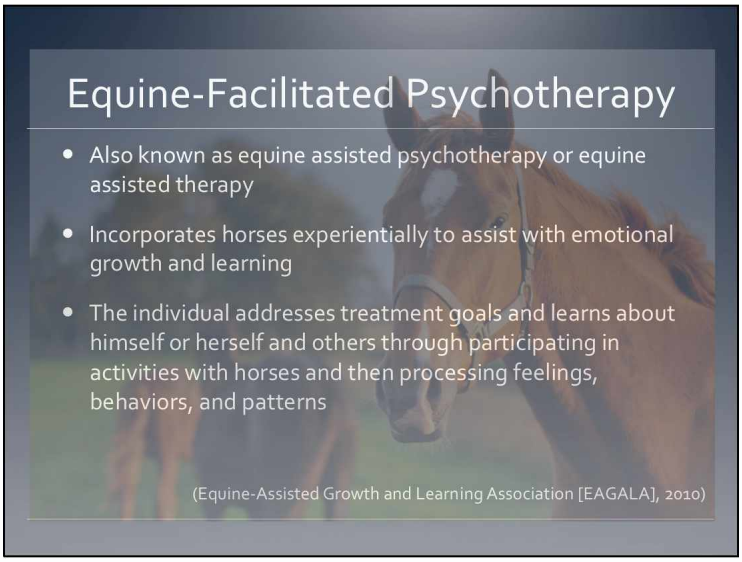
Interpersonal psychotherapy is a short-term therapy that focuses on interpersonal problems to reduce binge episodes. It has been found to have better follow-up results in some studies, while CBT has been found to have better results post-treatment (Nevonen & Broberg, 2006).

Several recent studies have indicated the importance and potential benefit of guided self-help when compared to CBT (Bailer et al., 2004; Jones et al., 2012; Vaz et al., 2013). CBT treatment strategies focus on monitoring eating, binging, compensatory mechanisms, and associated feelings and cognition, which is then followed by working to establish regular eating patterns, prevent binging and purging, eliminate dieting, improve problem-solving skills, change beliefs about food weight and shape, promote self-esteem, and learn to identify and regulate emotions and adverse mood states (Vaz et al., 2013). Guided self-help provides a more cost-effective and more readily available option. Cognitive-behavioral educational and treatment strategies can be utilized in a manual in conjunction with less frequent and shorter visits with a therapist.

Existing evidence on the treatment of AN is quite sparse and no single approach has shown to carry strong efficacy. Fortunately, two therapies have emerged in research over the last 10 years that are beginning to show potential benefits: interpersonal psychotherapy and family-based treatment (Hay, 2013). Family-based treatment (FBT), often referred to as the Maudsley Method (Arnold, 2007), or family therapy for anorexia nervosa, is showing increasing effectiveness with younger individuals who have AN (Downs & Blow, 2013; Hay, 2013; Hurst et al., 2012; Watson & Bulik, 2013). FBT utilizes a three-phase system to treat children and adolescents in an outpatient setting. It is considered an intensive therapy and utilizes the client's family extensively (Hurst et al., 2012).

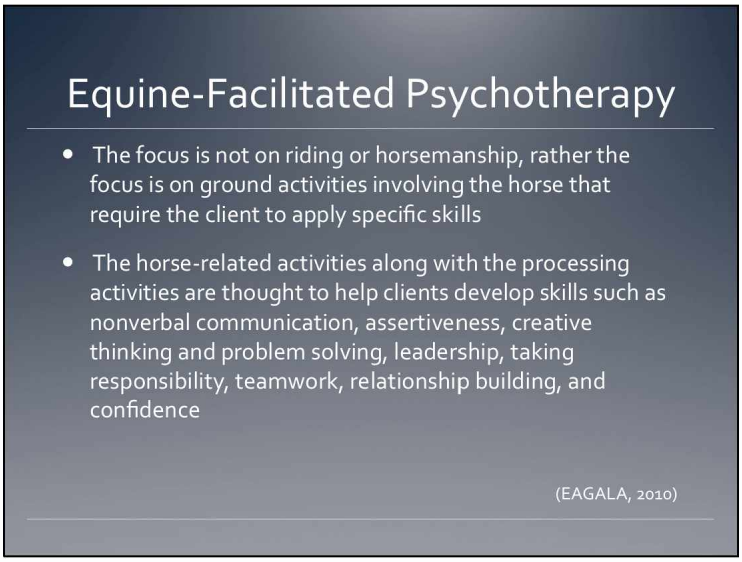


Zunker et al. (2013) analyzed the use of exercise and physical activity in the treatment of eating disorders. Using a review of literature format, Zunker et al. (2013) studied a variety of physical activities used within this population. The authors reviewed six studies that used exercise in some format as an intervention in clinical settings. Examples of exercises were riding a stationary bike, doing yoga or Pilates, playing recreational games, doing resistance training, and walking. Many of the studies included in the review provided positive evidence to support the use of moderate physical activity in treatment. For example, Szabo and Green (2002) found that resistance training was correlated with improvements in depression scores and body composition in the exercise groups when compared to a control group of non-exercisers. Even with the positive outcomes, Zunker et al. (2013) caution that more research needs to be performed on this topic before exercise can be considered an established treatment method, yet these findings provide positive insight into the potential benefit.

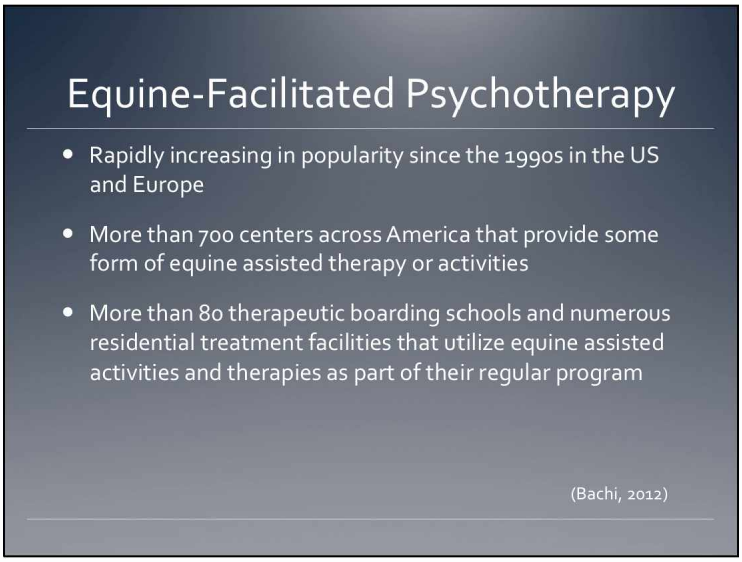


Equine-facilitated psychotherapy utilizes a team approach involving a licensed therapist and equine specialist to help treat individuals with eating disorders using horses (Christian, 2005; Dezutti, 2013). The Equine-Assisted Growth and Learning Association (EAGALA) is a nonprofit organization that provides education, standards, innovation, and support for professionals providing services in this area (EAGALA, 2010). EAGALA explains that equine-facilitated psychotherapy, also known as equine-assisted psychotherapy or equine-assisted therapy, incorporates horses experientially to assist with emotional growth and learning.

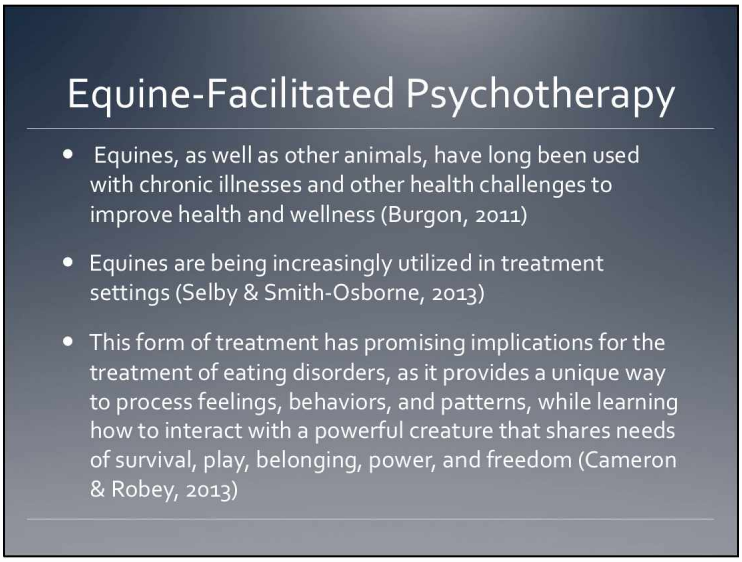
The individual addresses treatment goals and learns about himself or herself and others through participating in activities with horses and then processing feelings, behaviors, and patterns. Processing can take place on the spot or later in individual therapy sessions.



The focus of this form of therapy is not riding or horsemanship, rather the focus is on ground activities involving the horse that require the client to apply specific skills. These horse-related activities along with the processing activities are thought to help clients develop skills such as nonverbal communication, assertiveness, creative thinking and problem solving, leadership, taking responsibility, teamwork, relationship building, and confidence (EAGALA, 2010).



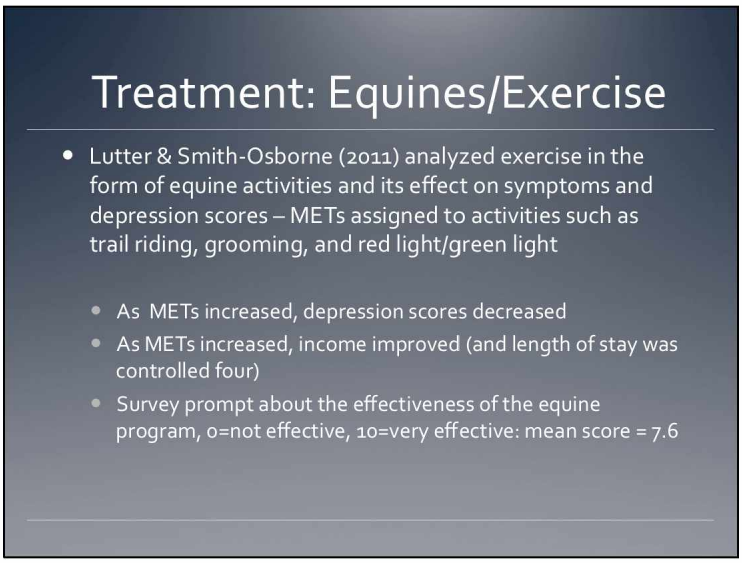
Equine-facilitated psychotherapy has been rapidly increasing in popularity since the 1990s in the United States and Europe and there are more than 700 centers across America that provide some form of equine assisted therapy or activities (Bachi, 2012). Additionally there are more than 80 therapeutic boarding schools and numerous residential treatment facilities that utilize equine assisted activities and therapies as part of the their regular program (Bachi, 2012).



Equines, as well as other animals, have long been used with chronic illnesses and other health challenges to improve health and wellness (Burgon, 2011). Equines are being increasingly utilized in treatment settings (Selby & Smith-Osborne, 2013). This form of treatment has promising implications for the treatment of eating disorders, as it provides a unique way to process feelings, behaviors, and patterns for those who suffer from life-threatening mental disorders.

This form of treatment has promising implications for the treatment of eating disorders, as it provides a unique way to process feelings, behaviors, and patterns, while learning how to interact with a powerful creature that shares needs of survival, play, belonging, power, and freedom (Cameron & Robey, 2013). Horses can be excellent teachers of choice therapy and reality therapy (Glasser) as Cameron and Robey describe in their article.

In 2003, Cumella (2003) reviewed the literature to answer the question, "Is equine therapy useful in the treatment of eating disorders?" The author found 13 studies that addressed the use of equines. Most were reports that included a combination of animal-assisted psychotherapy, and not equines specifically. Of these 13 reports, none addressed eating disorders specifically, but rather other mental disorders, such as depression and anxiety, which are two common comorbid conditions that often present with eating disorder patients. Equine therapy has been found to improve symptoms of depression and anxiety (Cumella, 2003), but the therapeutic benefits of equine therapy could only be surmised based on drawing conclusions from related work.



Lutter and Smith-Osborne (2011) also found promising results in a retrospective study involving physical activity and eating disorders. The authors analyzed 72 charts of women who had been diagnosed with AN, BN, and eating disorder not otherwise specified (EDNOS). The women ranged in age from 18 to 64 years old and were in treatment for at least 30 days. The women were being treated at an inpatient residential treatment facility in the southwestern region of the United States that specialized in treating eating disorders. The researchers measured the extent of physical activity by assigning metabolic equivalents (METs) to 32 different equine activities. All exercises were performed with horses. Some of these exercises were on the horse, such as trail riding and red light/green light, and some off the horse, such as grooming and the horse spa day. The researchers used the Eating Disorder Inventory (EDI-2) and the Beck Depression Inventory (BDI–2) to measure psychological well-being in order to determine effectiveness of this treatment modality. The authors also reviewed program satisfaction surveys that included patient discharge information, where patients were asked to rate and describe the effectiveness of the equine program at the end of treatment.

Both EDI-2 and BDI-II scores improved over the course of stay for all groups, as did body fat percentages for anorexia (Lutter & Smith-Osborne, 2011). The authors used regression analysis to determine the relationship between METs and both BDI-II and EDI-2 scores, finding statistically significant correlations. As METs increased, BDI-II discharge scores decreased, indicating a greater improvement in depression symptoms. When length of stay was controlled for, results showed that as METs increased, EDI-2 change scores increased, suggesting a greater improvement in eating disorder symptoms. Patients' mean scores for the survey prompt about the effectiveness of the equine program was 7.6, with 0 being not effective and 10 being very effective, indicating that the patients viewed equine therapy as beneficial to their treatment.

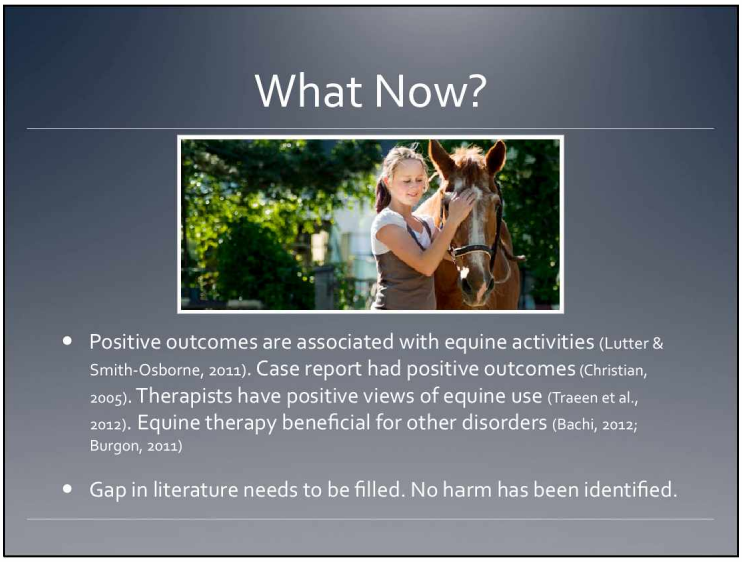
The results of the study appear to indicate that physical activity has a positive correlation with eating disorder symptom improvement (Lutter & Smith-Osborne, 2011). This study presents some of the first data in the literature about using equine-assisted exercise among individuals with eating disorders in a residential setting. The authors highlight these promising findings, yet recommend further research, as efficacy has not been fully established (Lutter & Smith-Osborne, 2011).

Additionally, Christian (2005) published a case study report that described important components of equine-assisted therapy. The author details how a women's residential treatment center utilized a team of therapists and horse specialists to help alleviate eating disorder symptoms and teach therapy lessons. The client discussed in the paper was a 26-year old female with a 10-year history of AN. She had been living with her aunt and uncle and was admitted for 60 days of residential treatment. The client performed various activities with horses, was asked therapeutic questions throughout the activities, and processed the activity with the therapists during the session and afterwards. Activities were used to learn specific patterns of behavior and the concept of boundaries. During her first equine session, the client participated in a lesson that revealed the influence of shame, control, and perfectionism in her life, and the importance of having treatment team members nearby. In her second session, she participated in an equine exercise that strove to teach her about boundaries, her support network, and codependency.

This case study presents a story of success that utilizes equine-facilitated psychotherapy in combination with other treatment modalities. Due to the nature of case studies, this article cannot determine any correlation or causation, but rather simply describe the phenomena and help guide future research.

No negative complications were reported. This case study helps describe the phenomenon, which helps guide future research.

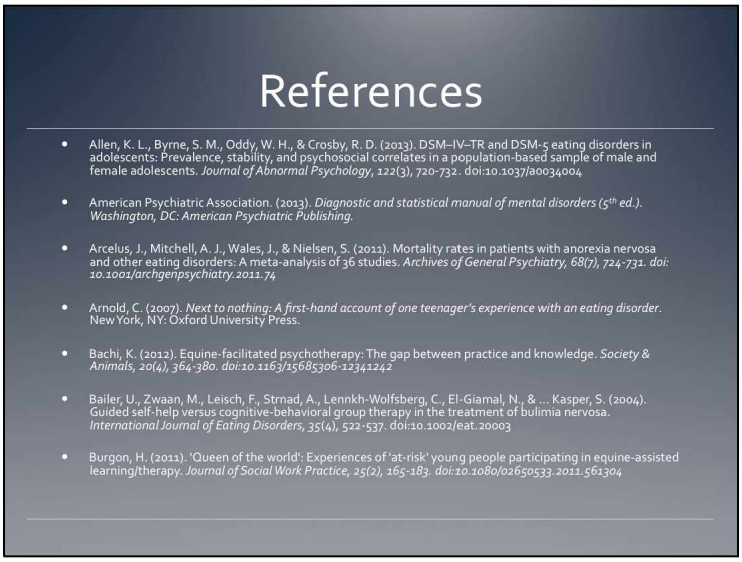
In a recent Norwegian article, researchers interviewed 6 therapists who used horse-assisted therapeutic interventions at a day treatment facility for individuals with prolonged, severe eating disorders (Træen, Moan, & Rosenvinge, 2012). The therapists reported that various qualities of the horse were useful in therapy. The therapists believed that the horses provided the patients with an opportunity to experience intimacy in a relationship. The horses also provided patients with an opportunity to practice and improve their relationship skills in a clear, effective manner that was less threatening than other approaches. The therapists thought that the patients were able to increase their awareness of their own and others' emotional reactions, as well as body language and intention through learning how to communicate with horses and reflecting on their therapy experiences. The authors conclude that the positive evaluations that the therapists gave for this treatment approach justify further refinements of the approach and the exploration of its effect and efficacy through controlled research designs (Træen et al., 2012).



In conclusion, limited literature exists on the topic of treating eating disorders with equine-facilitated psychotherapy or other related horse activities. Cumella (2003) explains that, as of publication, no prior research existed to support the efficacy of using equine therapy to treat eating disorders. Træen et al. (2012) and Christian (2005) provide low-level evidence to support the use of equines in treatment through interviews and a case study, respectively. Lutter and Smith-Osborne (2011) provide the only higher-level evidence that exists on this topic and suggest that equine activities may be beneficial, and at the very least, not harmful, to individuals who suffer from eating disorders. Clearly, more research is needed in this area to determine efficacy so that treatment facilities can appropriately and ethically care for their patients.

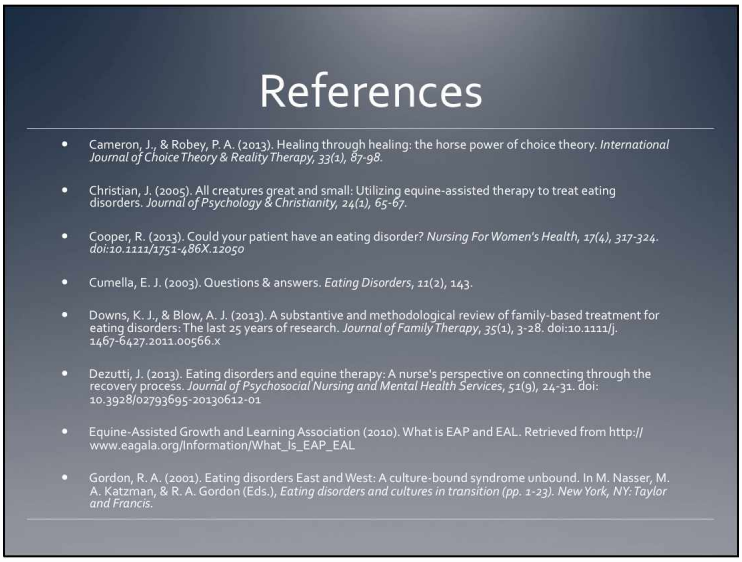
In general, equine therapy has shown to be beneficial for treating other disorders (Bachi, 2012; Burgon, 2011). We should continue to pursue this topic in research and develop effective and ethical guidelines for the use of equine therapy in the treatment of eating disorders.

There is insufficient knowledge about the efficacy of utilizing equine-facilitated psychotherapy to treat such disorders and issues, including eating disorders (Bachi, 2012; Lutter & Smith-Osborne, 2011). In addition to a lack of evidence on the subject, there is also a lack of methodologically-sound research. Much of the existing evidence lacks randomization, utilizes small sample sizes, and lacks control groups (Bachi, 2012). This gap between knowledge and practice presents a significant problem, especially when it comes to treating eating disorders. Equine-assisted activities and therapies are utilized in various treatment settings for eating disorders (Lutter & Smith-Osborne, 2011), yet little evidence exists to support its efficacy.



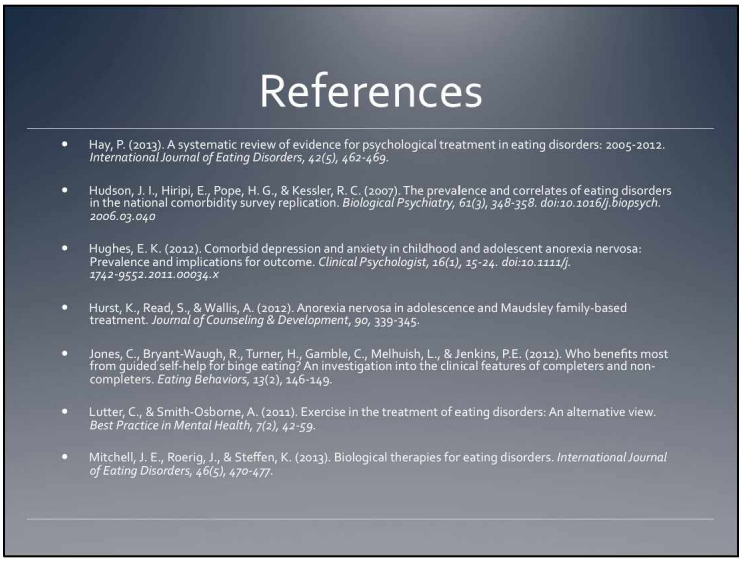
References

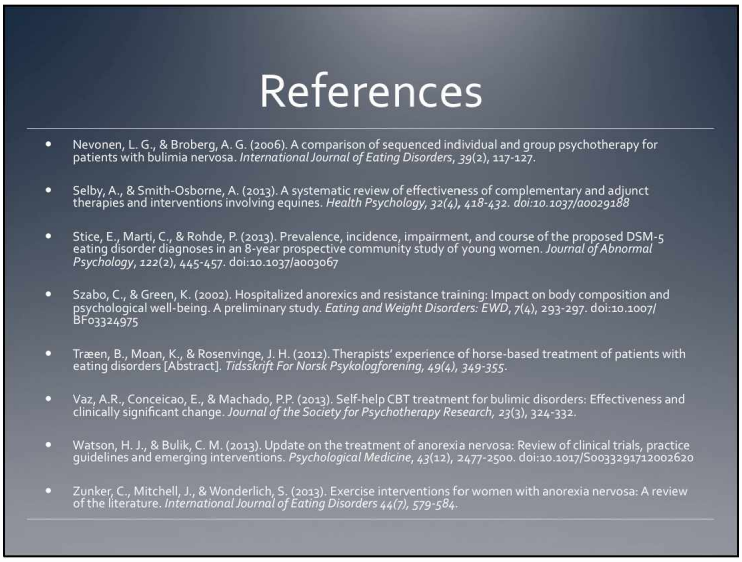
- Allen, K. L., Byrne, S. M., Oddy, W. H., & Crosby, R. D. (2013). DSM–IV–TR and DSM-5 eating disorders in adolescents: Prevalence, stability, and psychosocial correlates in a population-based sample of male and female adolescents. *Journal of Abnormal Psychology*, 122(3), 720-732. doi:10.1037/a0034004
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: American Psychiatric Publishing.*
- Arcelus, J., Mitchell, A. J., Wales, J., & Nielsen, S. (2011). Mortality rates in patients with anorexia nervosa and other eating disorders: A meta-analysis of 36 studies. *Archives of General Psychiatry, 68(7), 724-731. doi: 10.1001/archgenpsychiatry.2011.74*
- Arnold, C. (2007). *Next to nothing: A first-hand account of one teenager's experience with an eating disorder.* New York, NY: Oxford University Press.
- Bachi, K. (2012). Equine-facilitated psychotherapy: The gap between practice and knowledge. *Society & Animals, 20(4), 364-380. doi:10.1163/15685306-12341242*
- Bailer, U., Zwaan, M., Leisch, F., Strnad, A., Lennkh-Wolfsberg, C., El-Giamal, N., & ... Kasper, S. (2004). Guided self-help versus cognitive-behavioral group therapy in the treatment of bulimia nervosa. *International Journal of Eating Disorders*, 35(4), 522-537. doi:10.1002/eat.20003
- Burgon, H. (2011). 'Queen of the world': Experiences of 'at-risk' young people participating in equine-assisted learning/therapy. *Journal of Social Work Practice, 25(2), 165-183. doi:10.1080/02650533.2011.561304*



References

- Cameron, J., & Robey, P. A. (2013). Healing through healing: the horse power of choice theory. *International Journal of Choice Theory & Reality Therapy, 33(1), 87-98.*
- Christian, J. (2005). All creatures great and small: Utilizing equine-assisted therapy to treat eating disorders. *Journal of Psychology & Christianity, 24(1), 65-67.*
- Cooper, R. (2013). Could your patient have an eating disorder? *Nursing For Women's Health, 17(4), 317-324. doi:10.1111/1751-486X.12050*
- Cumella, E. J. (2003). Questions & answers. *Eating Disorders*, *11*(2), 143.
- Downs, K. J., & Blow, A. J. (2013). A substantive and methodological review of family-based treatment for eating disorders: The last 25 years of research. *Journal of Family Therapy*, *35*(1), 3-28. doi:10.1111/j.1467-6427.2011.00566.x
- Dezutti, J. (2013). Eating disorders and equine therapy: A nurse's perspective on connecting through the recovery process. *Journal of Psychosocial Nursing and Mental Health Services*, *51*(9), 24-31. doi: 10.3928/02793695-20130612-01
- Equine-Assisted Growth and Learning Association (2010). What is EAP and EAL. Retrieved from http://www.eagala.org/Information/What_Is_EAP_EAL
- Gordon, R. A. (2001). Eating disorders East and West: A culture-bound syndrome unbound. In M. Nasser, M. A. Katzman, & R. A. Gordon (Eds.), *Eating disorders and cultures in transition (pp. 1-23). New York, NY: Taylor and Francis.*


References
Hay, P. (2013). A systematic review of evidence for psychological treatment in eating disorders: 2005-2012. International Journal of Eating Disorders, 42(5), 462-469.
Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the national comorbidity survey replication. Biological Psychiatry, 61(3), 348-358. doi:10.1016/j.biopsych.2006.03.040
Hughes, E. K. (2012). Comorbid depression and anxiety in childhood and adolescent anorexia nervosa: Prevalence and implications for outcome. Clinical Psychologist, 16(1), 15-24. doi:10.1111/j.1742-9552.2011.00034.x
Hurst, K., Read, S., & Wallis, A. (2012). Anorexia nervosa in adolescence and Maudsley family-based treatment. Journal of Counseling & Development, 90, 339-345.
Jones, C., Bryant-Waugh, R., Turner, H., Gamble, C., Melhuish, L., & Jenkins, P.E. (2012). Who benefits most from guided self-help for binge eating? An investigation into the clinical features of completers and non-completers. Eating Behaviors, 13(2), 146-149.
Lutter, C., & Smith-Osborne, A. (2011). Exercise in the treatment of eating disorders: An alternative view. Best Practice in Mental Health, 7(2), 42-59.
Mitchell, J. E., Roerig, J., & Steffen, K. (2013). Biological therapies for eating disorders. International Journal of Eating Disorders, 46(5), 470-477.


References
Nevonen, L. G., & Broberg, A. G. (2006). A comparison of sequenced individual and group psychotherapy for patients with bulimia nervosa. International Journal of Eating Disorders, 39(2), 117-127.
Selby, A., & Smith-Osborne, A. (2013). A systematic review of effectiveness of complementary and adjunct therapies and interventions involving equines. Health Psychology, 32(4), 418-432. doi:10.1037/a0029188
Stice, E., Marti, C., & Rohde, P. (2013). Prevalence, incidence, impairment, and course of the proposed DSM-5 eating disorder diagnoses in an 8-year prospective community study of young women. Journal of Abnormal Psychology, 122(2), 445-457. doi:10.1037/a0030067
Szabo, C., & Green, K. (2002). Hospitalized anorexics and resistance training: Impact on body composition and psychological well-being. A preliminary study. Eating and Weight Disorders: EWD, 7(4), 293-297. doi:10.1007/BF03324975
Træen, B., Moan, K., & Rosenvinge, J. H. (2012). Therapists' experience of horse-based treatment of patients with eating disorders [Abstract]. Tidsskrift For Norsk Psykologforening, 49(4), 349-355.
Vaz, A.R., Conceicao, E., & Machado, P.P. (2013). Self-help CBT treatment for bulimic disorders: Effectiveness and clinically significant change. Journal of the Society for Psychotherapy Research, 23(3), 324-332.
Watson, H. J., & Bulik, C. M. (2013). Update on the treatment of anorexia nervosa: Review of clinical trials, practice guidelines and emerging interventions. Psychological Medicine, 43(12), 2477-2500. doi:10.1017/S0033291712002620
Zunker, C., Mitchell, J., & Wonderlich, S. (2013). Exercise interventions for women with anorexia nervosa: A review of the literature. International Journal of Eating Disorders 44(7), 579-584.

Appendix B

Handout on Equine-Assisted Therapy Programs

Equine-Facilitated Psychotherapy Programs in Alaska

*Updated April 2014

Aurora Equine Therapy – Wasilla, Alaska

Contact: Debbie Erickson: 907-227-0406
contactus@auroraequinetherapy.org
www.auroraequinetherapy.org
EAGALA Certified

Caballada – Wasilla, Alaska

Contact: Nan Truitt, PhD. 907-707-1422
nan@nantruitt.com
www.nantruitt.com
EAGALA Certified

Horses Changing Lives – Anchorage, Alaska

Contact: Kristi Seymour, LPC, MBA 435-817-0812
kristi@horseschanginglives.com
http://horseschanginglives.com
EAGALA Certified.

To locate additional EFP Programs visit:
http://www.eagala.org/find_a_program